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**Quality Assurance of gINT Data Using EQuIS Data Processor  
(EDP)**

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GORDON BOX, LG 03/15/2011

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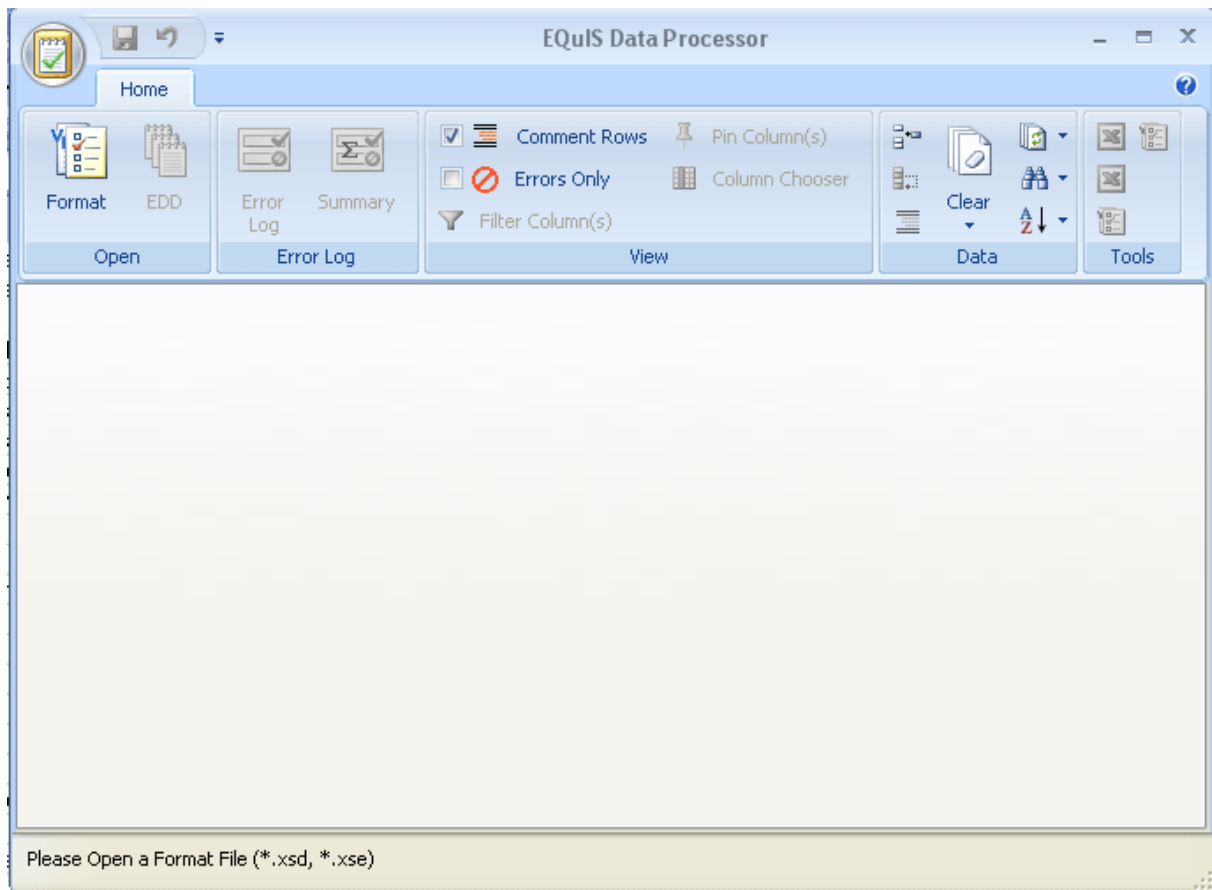
## **Quality Assurance of gINT Data Using EQuIS Data Processor (EDP)**

EQuIS Data Processor (EDP) assures integrity of gINT data before data is submitted to the Geotechnical Engineering Unit (GEU). Field personnel must run EDP and create an error-free log before any subsurface inventory is distributed by the GEU.

Access EDP as a standalone application.

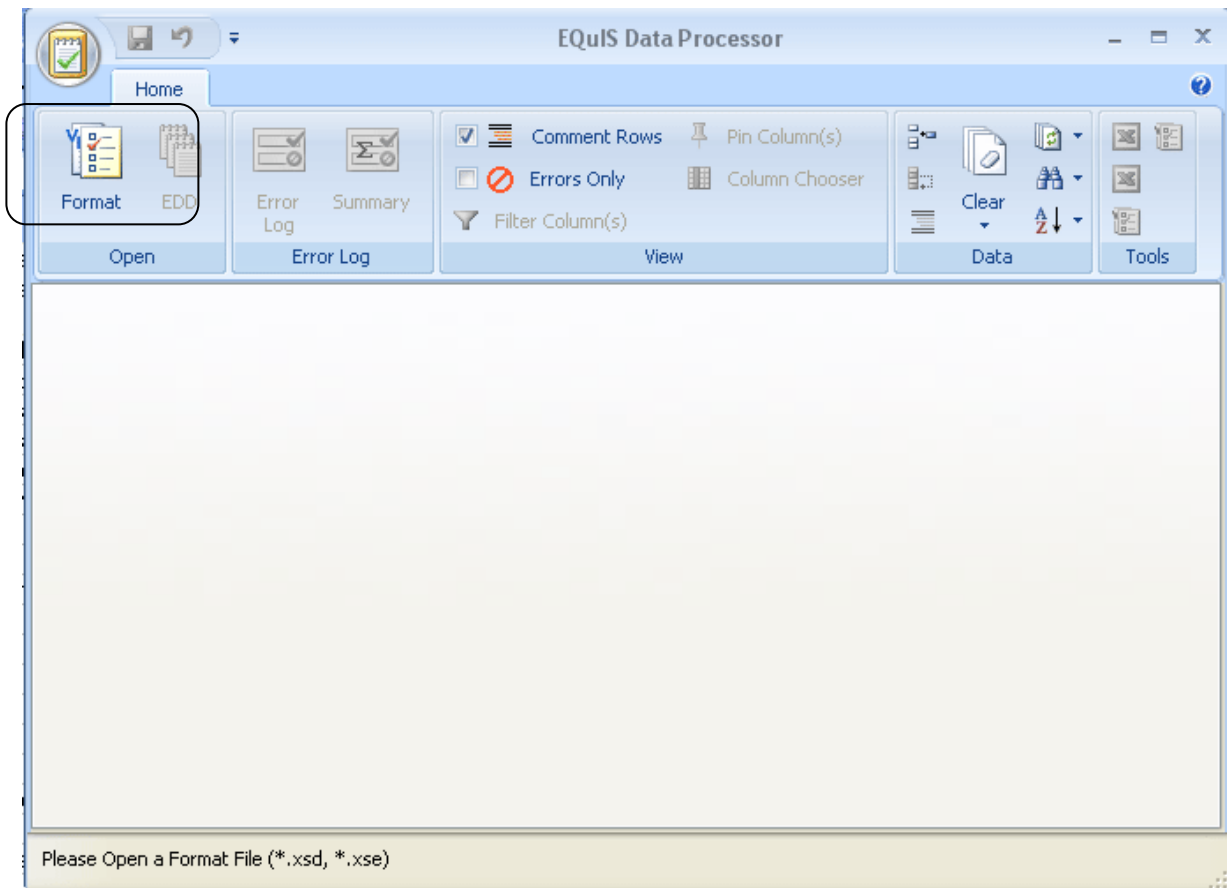
- **Open or Download, Install and Open EDP Standalone Application**

If not installed, download EDP standalone from EarthSoft and install (refer to Appendix). Once installed, open EDP as a standalone application.



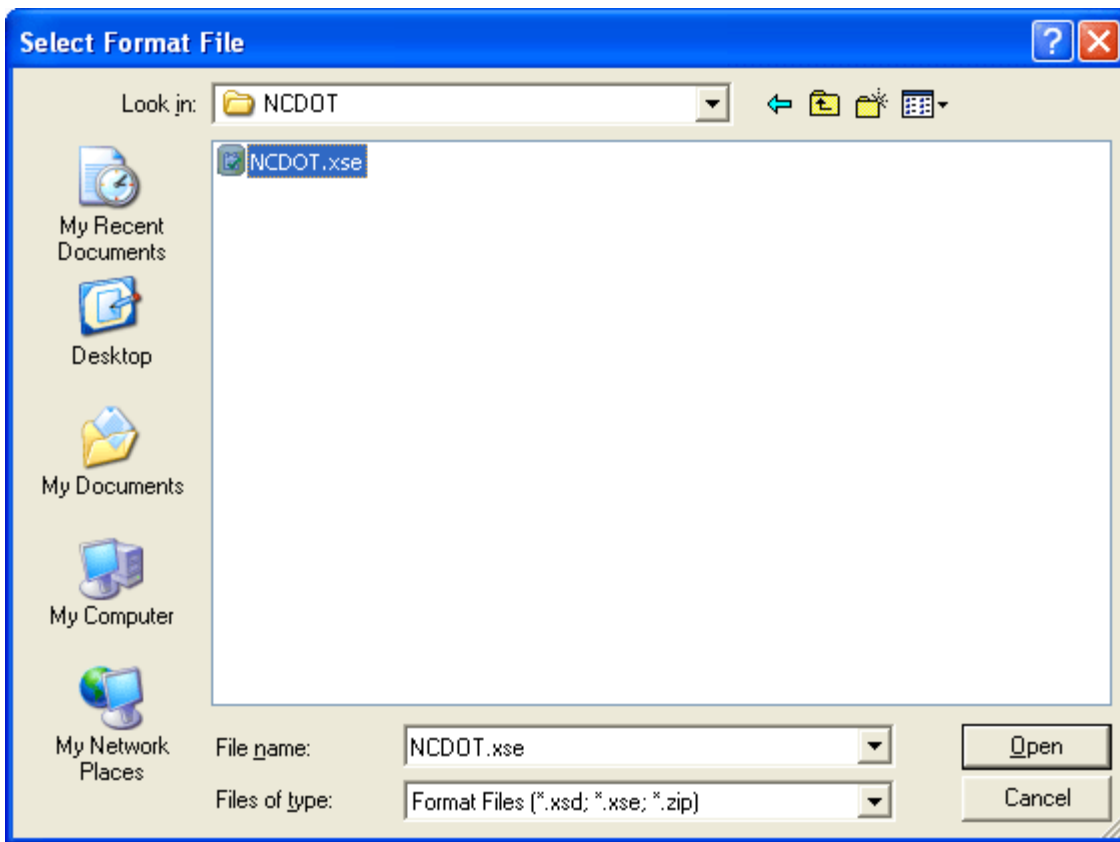
**Figure 4: EQuIS Data Processor Opened**

- Click on *Format* (Initially)



**Figure 5: EQuIS Data Processor (Click *Format*)**

- *Select Path to Format File (Initially)*



**Figure 6: Select Format File**

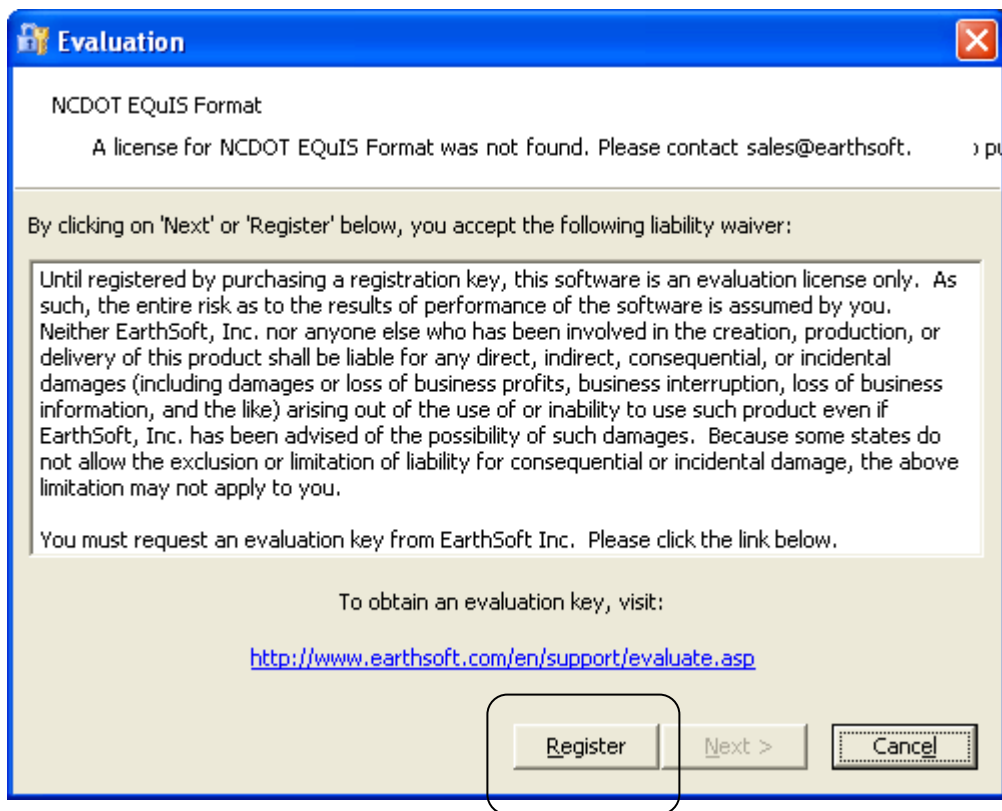
Select the path to the NCDOT.xse format file. (*Do not* use the upper-most green check button to *Open, Save, Register* because the software needs to recognize a request to register for *NCDOT format file* in order to find the custom NCDOT/EarthSoft registration website.)

The file location is C:\NCDOT\_V8\_WORKSPACE\GEOTECHNICAL\_STDS\Standards\appl\equis (The same folder must contain NCDOT.xse, NCDOT.vbe, NCDOT.dll, and NCDOT.rvf files.) If files are unavailable to NCDOT users, then update NCDOT Workspace.

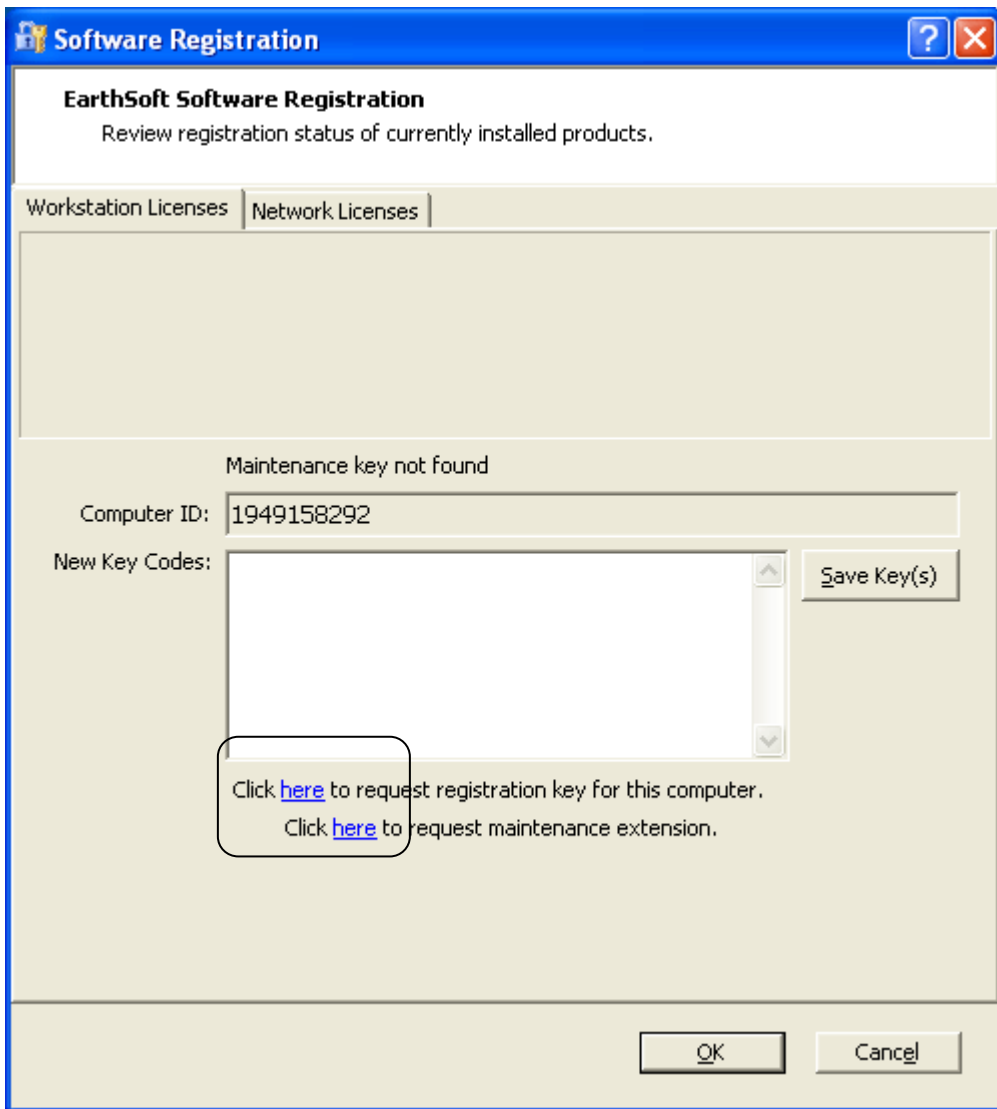
Users external to NCDOT (e.g., Consultants) may find these files at default location C:\Program Files\EarthSoft\EQuIS\Formats upon installation of EDP standalone (refer to Appendix).

- *License (Initially)*

The user is prompted to request license key from EarthSoft when initially opening the NCDOT format file in EDP standalone. Click *register* in the Evaluation window that emerges to get to the Software Registration window.



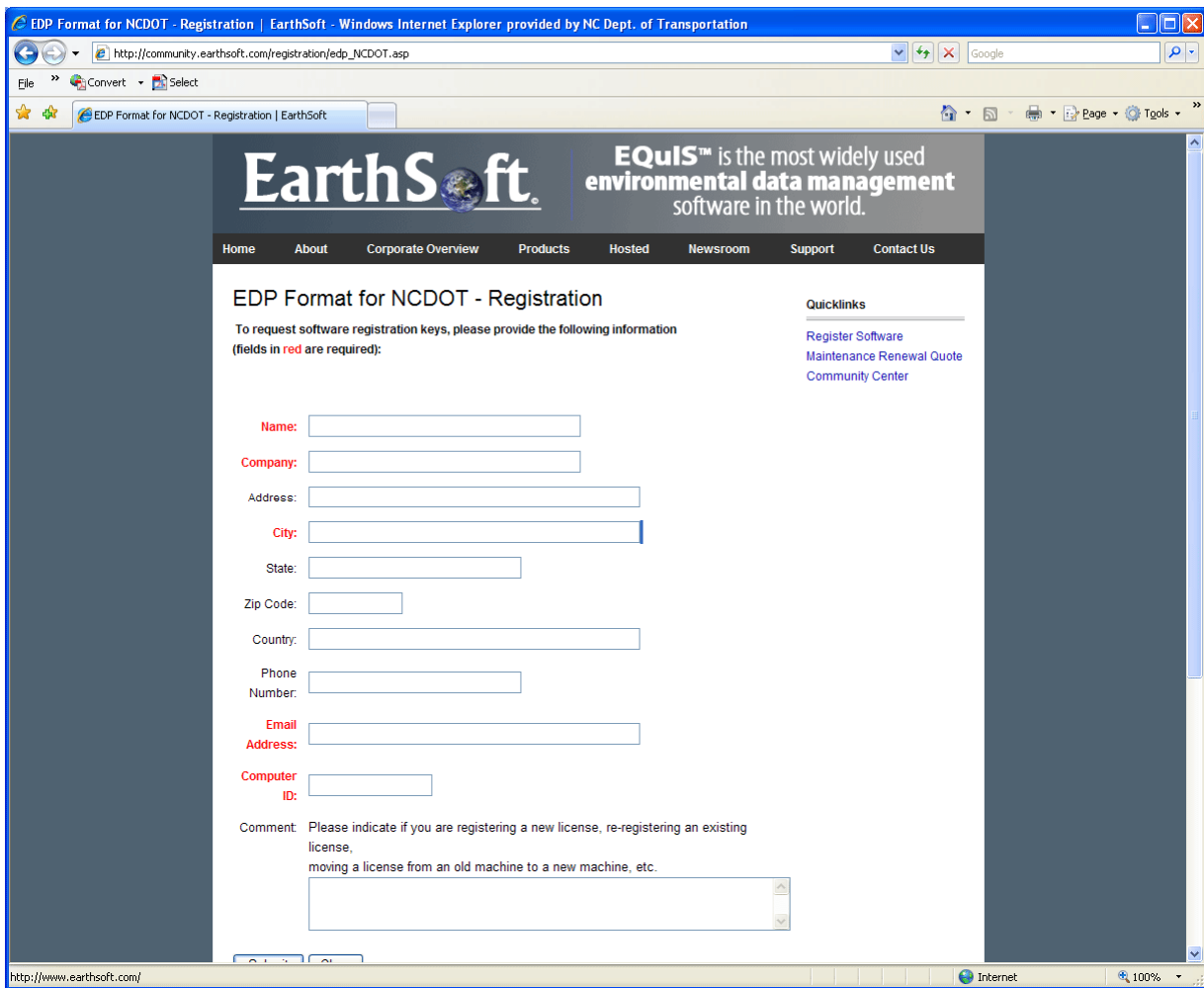
**Figure 7: Evaluation Window of EarthSoft Software Registration**



**Figure 8: EarthSoft Software Registration to Click Here**

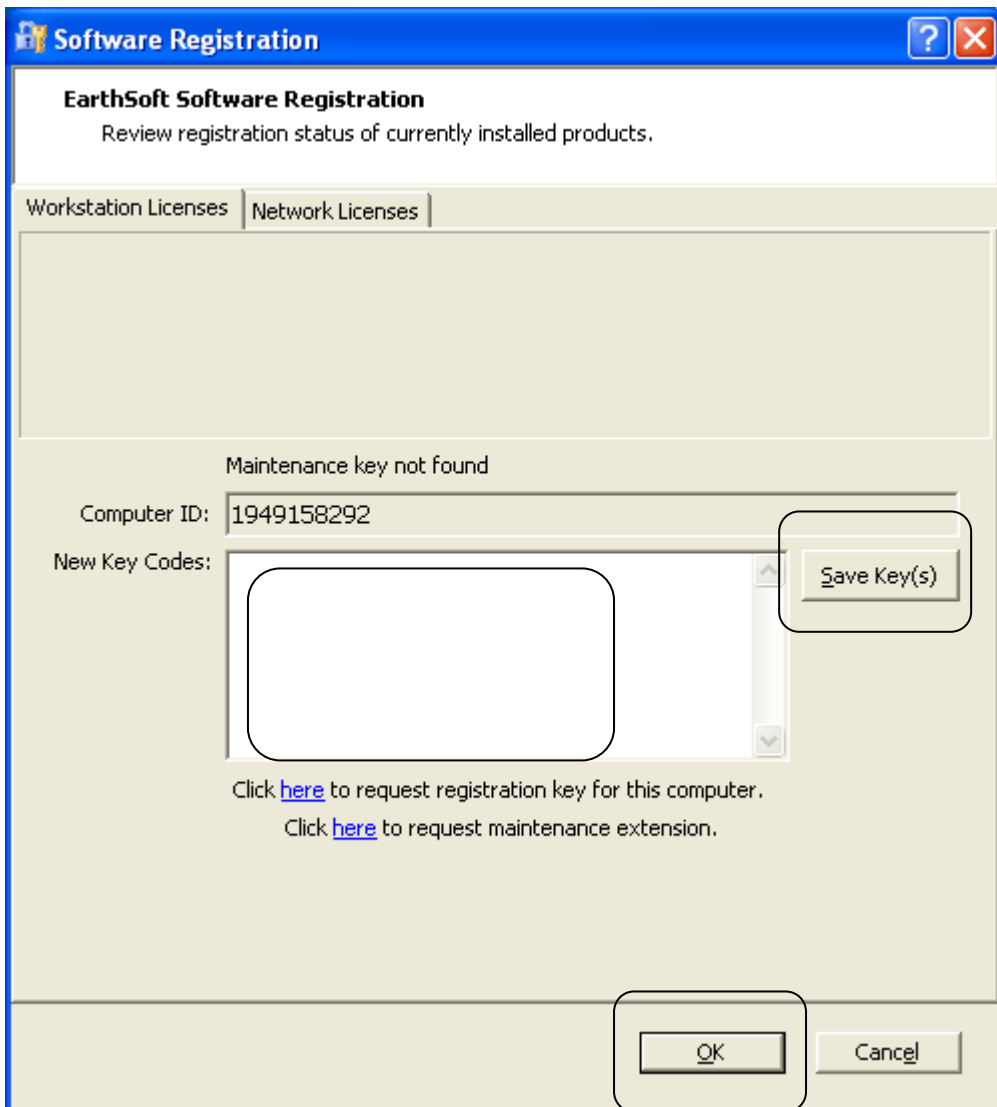
To request a license key click the hyperlink *here to request registration key* (Figure 8), which brings up the NCDOT/EarthSoft custom registration webpage. The computer ID will automatically populate the webpage form. Fill out webpage (Figure 9).

(Or go directly to [http://community.earthsoft.com/registration/edp\\_NCDOT.asp](http://community.earthsoft.com/registration/edp_NCDOT.asp) and copy/paste the Computer ID from software registration window on your PC {similar to Figure 8} into the webpage {Figure 9}.)



**Figure 9: EQulS EarthSoft Webpage**



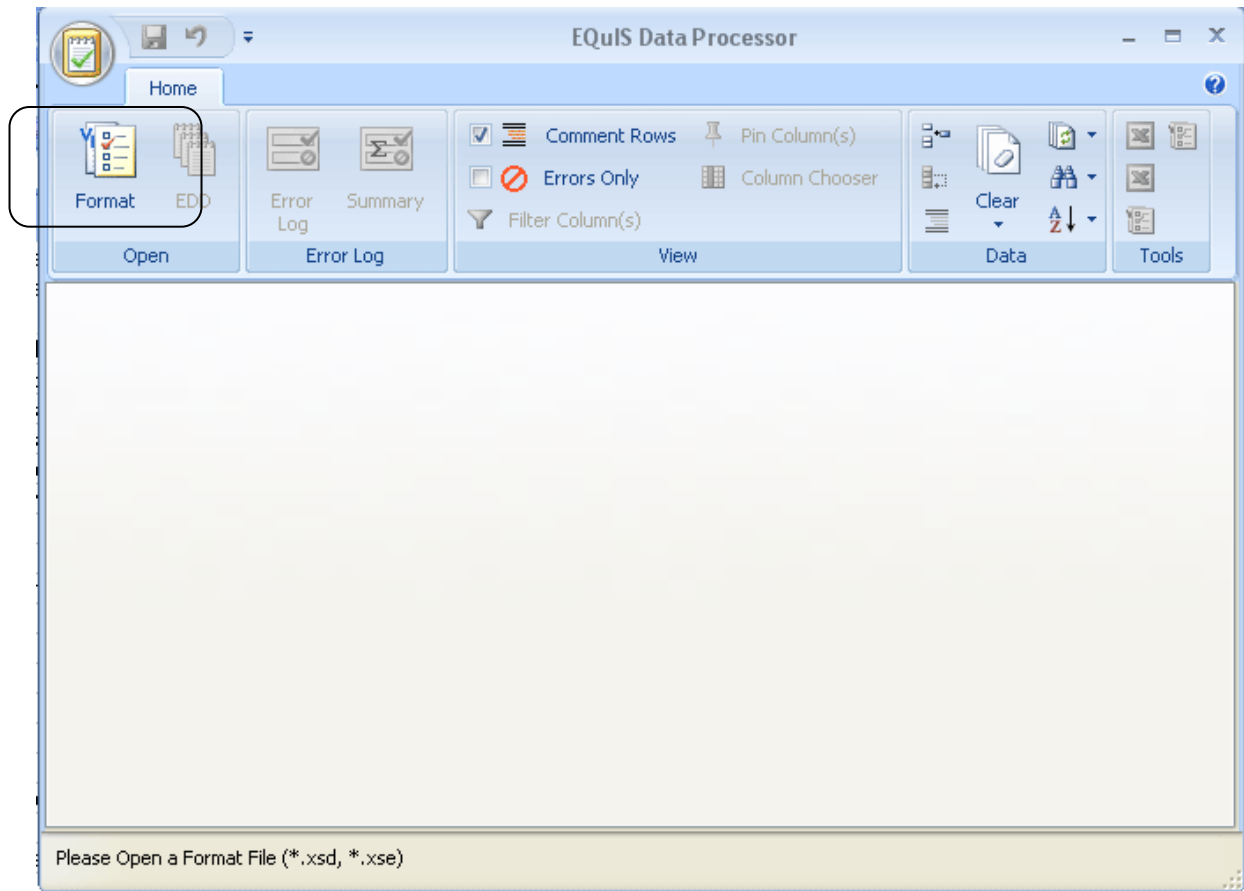


**Figure 10: EarthSoft Software Registration to Paste Key**

Receive the license key from NCDOT Geotechnical Engineering Unit, Production Support by email. Paste key into *New Key Codes* (Figure 10). Click *Save Key(s)* and click *OK*.

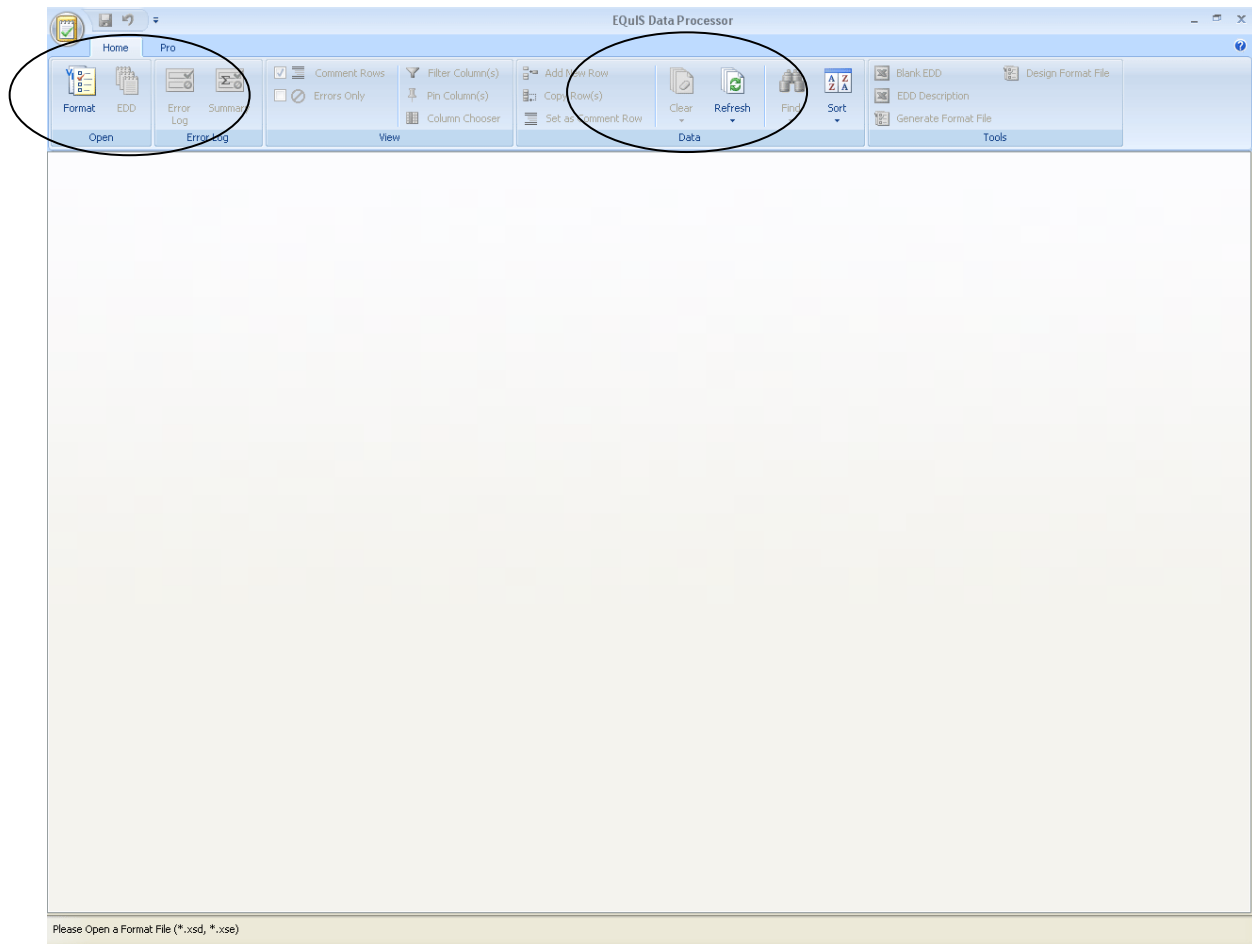
Only users that have permission to write to C:\Program Files\EarthSoft will be able to register.

Return to the EDP and re-browse to workspace again to successfully select NCDOT.xse.



**Figure 11: Re-Browse for Format File in EDP**

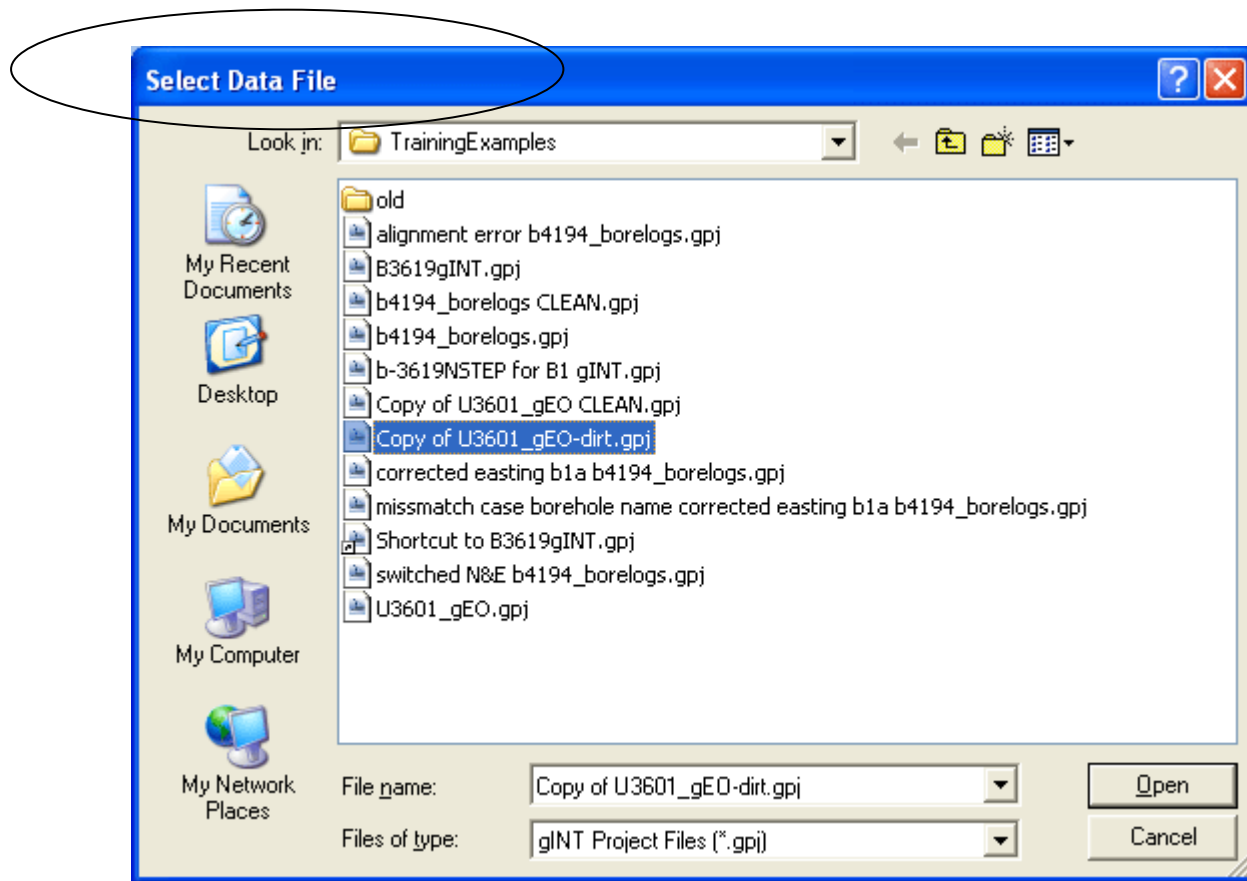
- **Left-click on Electronic Data Delivery (EDD) in EDP**



**Figure 12: EQUIS Data Processor (Click *EDD*) (Clear function also circled)**

- **Select gINT Data File**

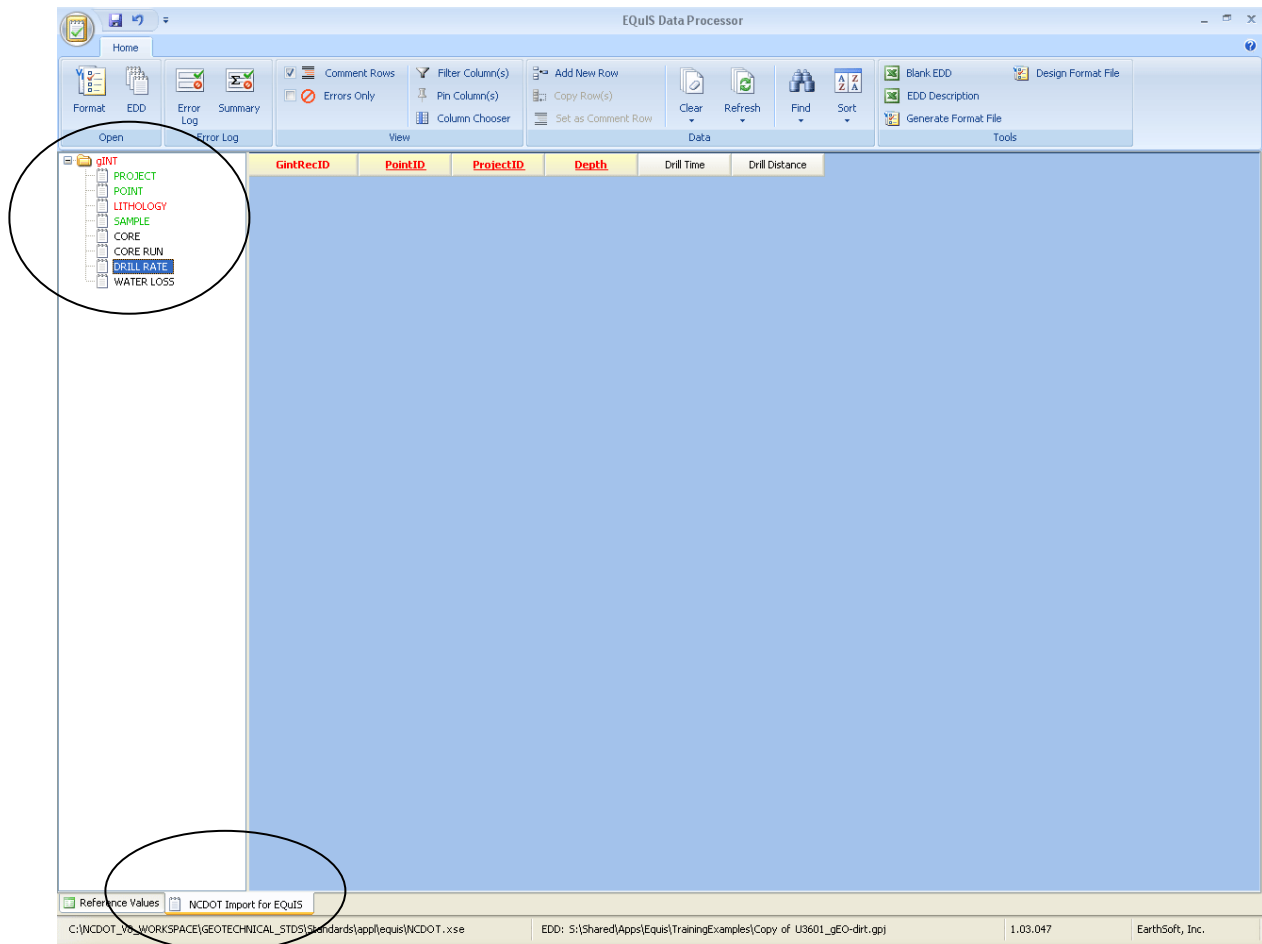
Select data file of an existing gINT file.



**Figure 13: Select Data File**

- **Populate EDD**

Double-click the *File name* or *Open* (Figure 13) to result in screen in Figure 14. If EDP application has already been run and another file is to be run in EDP, then clear the initial data with the *Clear* function and *Clear EDD* in the toolbar (circled in Figure 12). Re-browsing to the format file in EDP will assure the system is refreshed without re-opening the application.

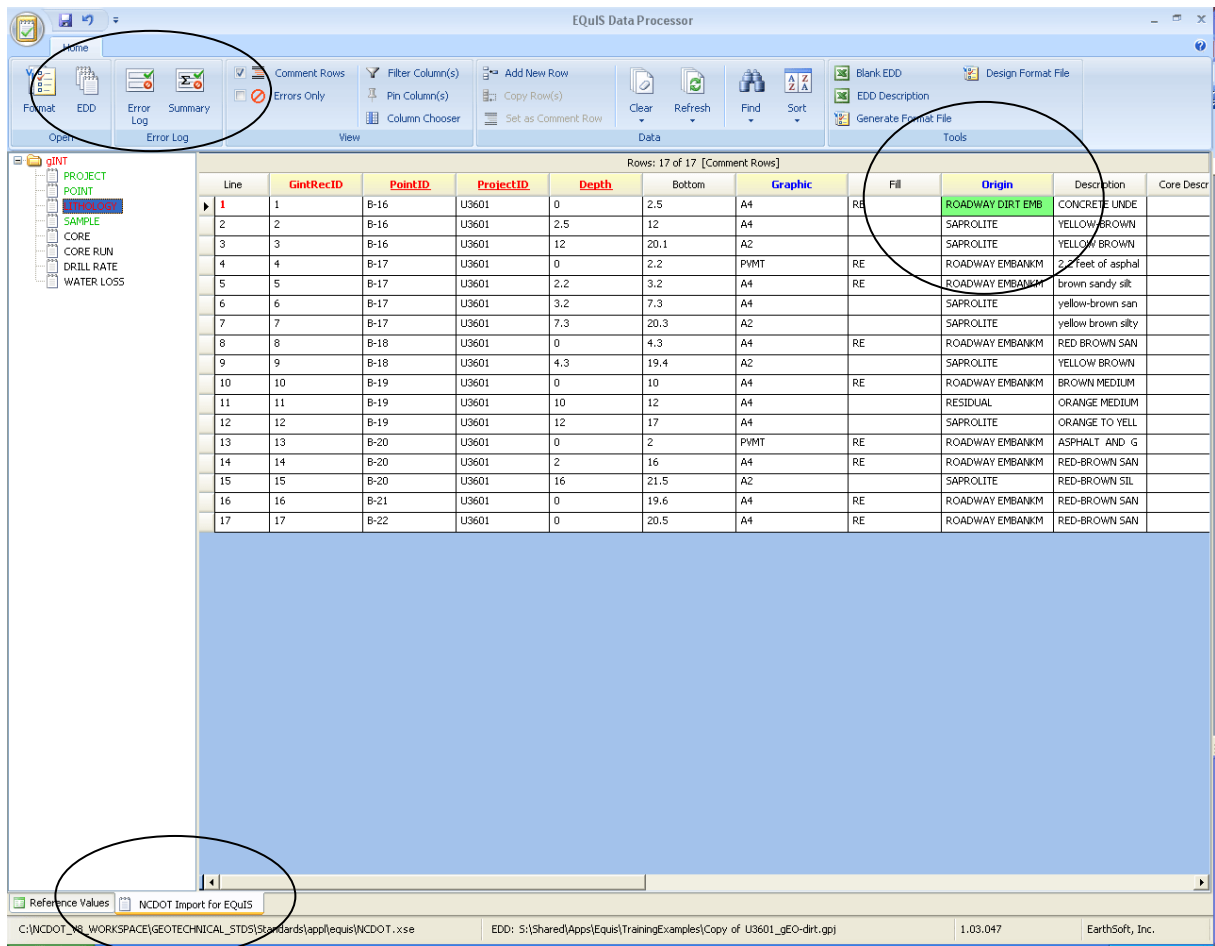


**Figure 14: EQiS Data Processor Populated**

#### ▪ **Assure Quality**

Assure integrity of data in the various gINT tables before transmitting subsurface inventory to the Unit Head for distribution by Production Support.

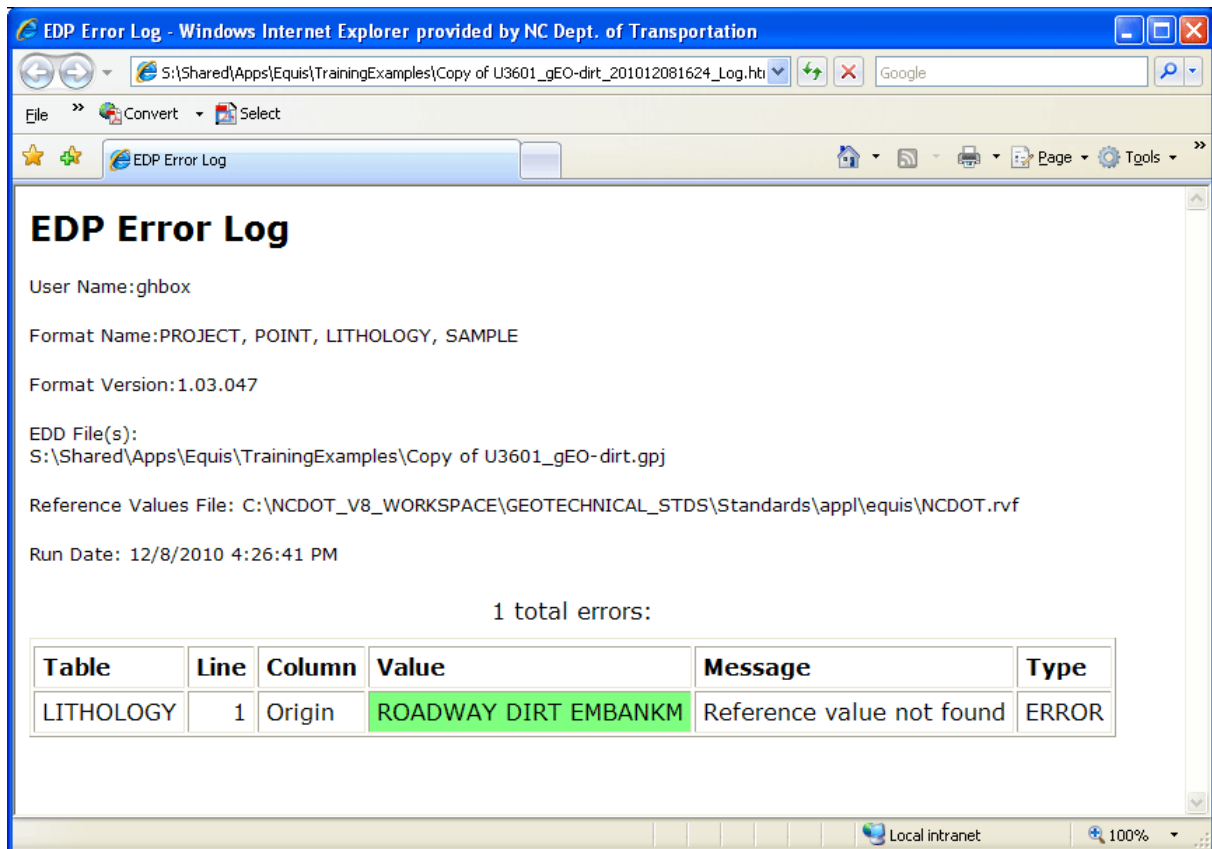
The red text of the *LITHOLOGY* table (Figure 14) indicates an error caused by gINT entry of a non-standard value that needs to be corrected *in gINT* by field personnel. Green highlight (Figure 15) indicates the field that contains an error. This error occurred because the standard drop-down menu of gINT was not used.



**Figure 15: EQuIS Data Processor Errors**

- **Generate Error Log**

Click *Error Log* to generate .htm-file error log.



**Figure 16: EDP Error Log**

- **Handle Error(s) in gINT and Repopulate EDD**

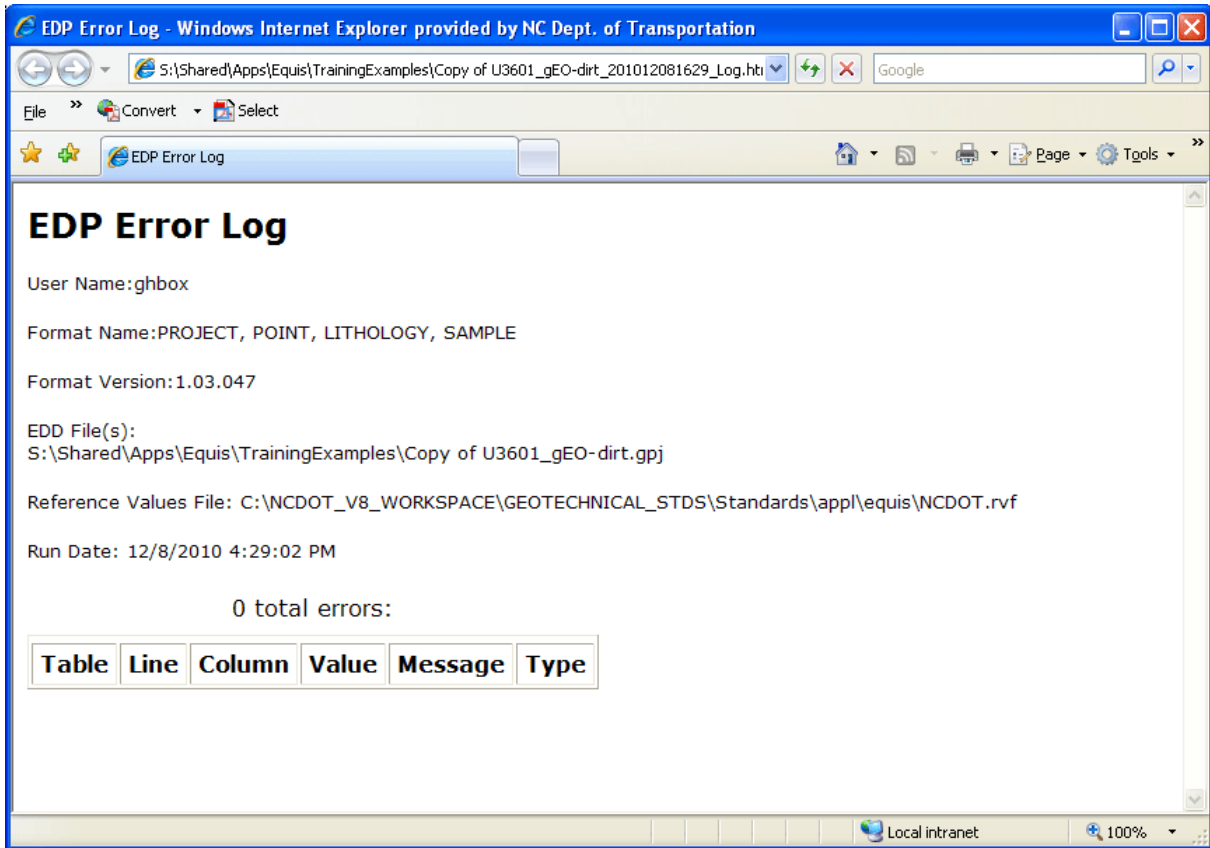
Repair any incorrect gINT entries and repopulate EDD. A correct gINT record will reveal *green*, error-free tables as revealed on the *NCDOT Import for EQuIS* tab (Figure 17).

**Figure 17: Error-Free EQUiS Data Processor**

In the column headers on tab *NCDOT Import for EQUiS*: red text indicates a required field, underscored-red text indicates a component of a primary key, and blue text indicates fields governed by reference value tables (reference value tables function as interrelated drop-down lists).



- **Generate an Error-Free Error Log.**



**Figure 18: Error-Free Error Log**

- **Submit Error-Free Error Log and gINT for Upload to EQUIS upon Distribution**

Indicate on the Transmittal Form that EDP was run and that an error-free error log was successfully generated when requesting the GEU Unit Head to distribute a product through Production Support.

- **Examples of Common gINT Errors**

- *TIP requires Hyphen, if applicable*

Lack of hyphen in TIP will not be detected by EDP because some TIP numbers do not have hyphens, therefore it cannot be screened for by code.

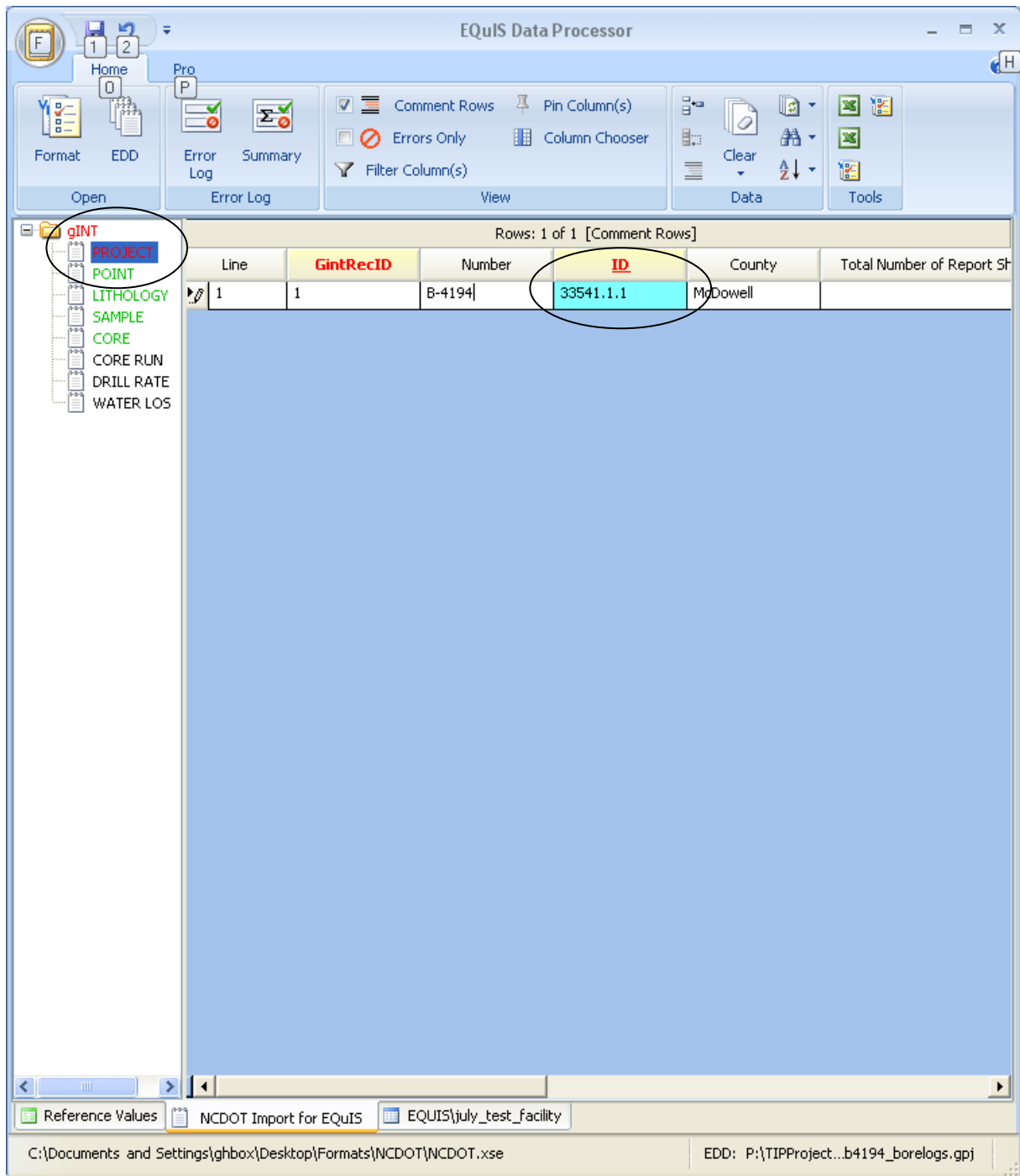
"WARNING: TIP: Maximum field length should be 11 characters long. First 1 or 2 characters should be letters followed by an optional hyphen and 4 characters should be numeric, and can be followed by up to 3 optional letters. Please assure TIP is in this field."

- *Reversal of TIP and WBS*

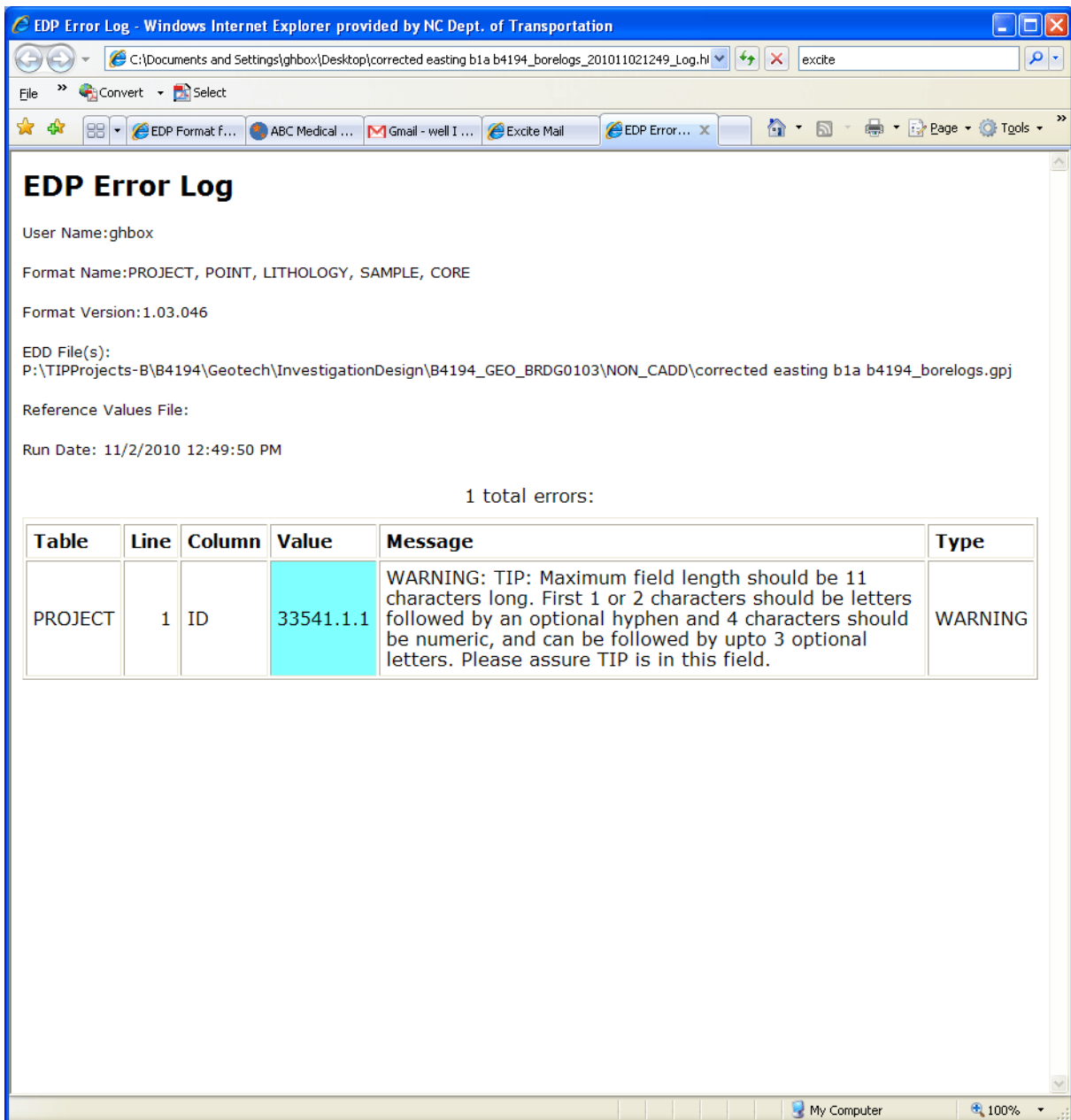
This error will be detected if a hyphen is included in WBS.

"WARNING: WBS: Minimum field length should be 5 characters and maximum field length should be 15 characters. All characters should be alpha-numeric (letters and/or numbers) except decimal characters ('.') are allowed. Please assure WBS is in this field.-If WBS should have hyphen, then contact GHBOX."

"WARNING: TIP: Maximum field length should be 11 characters long. First 1 or 2 characters should be letters followed by an optional hyphen and 4 characters should be numeric, and can be followed by up to 3 optional letters. Please assure TIP is in this field."



**Figure 19: Erroneous TIP**

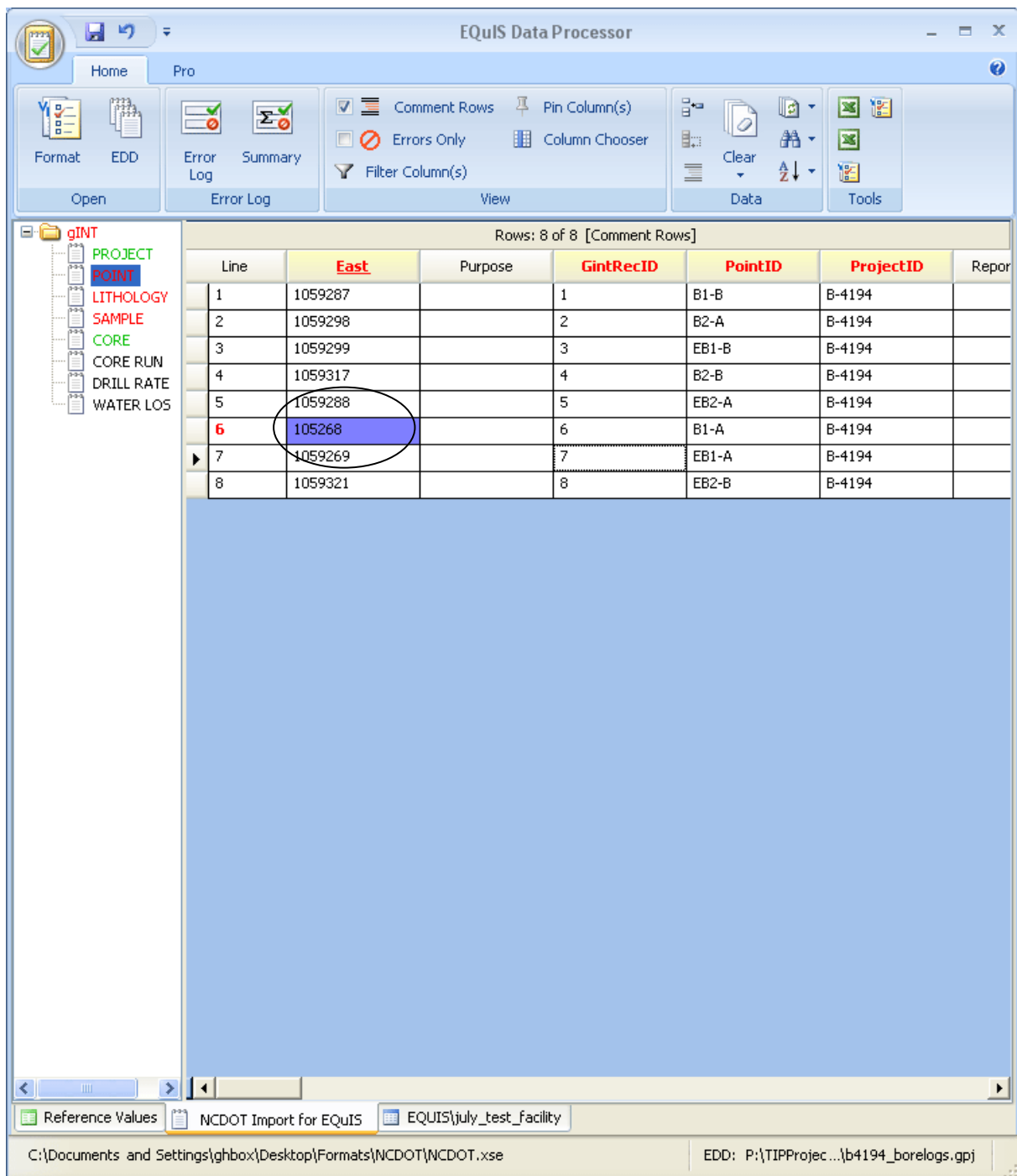


**Figure 20: Erroneous TIP Error Log**

- *Nothing and Easting Range*

"North must be between 30,000 and 1,050,000." "East must be between 400,000 and 3,060,000."

The Easting in Figure 21 falls out of range.



**Figure 21: Erroneous Easting**

Typographical error cascades into other tables (Figure 22).

EQUS Data Processor

Home Pro

Format EDD Error Log Summary

Comment Rows Pin Column(s) Errors Only Column Chooser Filter Column(s) View

Clear Data Tools

gINT PROJECT POINT LITHOLOGY SAMPLE CORE CORE RUN DRILL RATE WATER LOS

Rows: 37 of 37 [Comment Rows]

Line	GintRecID	PointID	ProjectID	Depth	Bottom	
1	1	B1-B	B-4194	0	13	A2
2	2	B1-B	B-4194	13	36.3	A2
3	3	B1-B	B-4194	36.3	48.6	WR
4	4	B2-A	B-4194	0	5.2	A2
5	5	B2-A	B-4194	5.2	30.1	A2
6	6	B2-A	B-4194	30.1	40.4	WR
7	7	EB1-B	B-4194	0	10	A2
8	8	EB1-B	B-4194	10	27.5	A2
9	9	EB1-B	B-4194	27.5	30.5	WR
10	10	EB1-B	B-4194	30.5	37	A2
11	11	EB1-B	B-4194	37	40.74	WR
12	12	B2-B	B-4194	0	5.7	A1
13	13	B2-B	B-4194	5.7	30.2	A2
14	14	B2-B	B-4194	30.2	45.4	WR
15	15	B2-B	B-4194	45.4	48.2	CR
16	16	EB2-A	B-4194	0	14.7	A2
17	17	EB2-A	B-4194	14.7	35.7	A4
18	18	EB2-A	B-4194	35.7	39.2	WR
19	19	B1-A	B-4194	0	10.5	A1
20	20	B1-A	B-4194	10.5	41	A2
21	21	B1-A	B-4194	41	50.6	WR
22	22	EB1-A	B-4194	0	5	A4
23	23	EB1-A	B-4194	5	10	A1
24	24	EB1-A	B-4194	10	33.9	A4
25	25	EB1-A	B-4194	33.9	42.1	WR
26	26	EB1-A	B-4194	42.1	45.7	A2
27	27	EB1-A	B-4194	45.7	47.7	CR
28	29	B2-B	B-4194	48.2	53.2	CR

Reference Values NCDOT Import for EQUS EQUIS\july\_test\_facility

C:\Documents and Settings\ghbox\Desktop\Formats\NCDOT\NCDOT.xse EDD: P:\TIPProjec...\b4194\_borelogs.gpj

**Figure 22: Lithology Tab of Erroneous Easting Cascading into other Tables**

Rows: 94 of 94 [Comment Rows]

Line	GintRecID	PointID	ProjectID	Depth	Length	IMPL
55	56	EB2-A	B-4194	35.6		IMPL
56	57	EB2-A	B-4194	35.7		IMPL
57	58	B1-A	B-4194	2	1.5	
58	59	B1-A	B-4194	7	1.5	
59	60	B1-A	B-4194	12	1.5	
60	61	B1-A	B-4194	17	1.5	
61	62	B1-A	B-4194	22	1.5	
62	63	B1-A	B-4194	27	1.5	
63	64	B1-A	B-4194	32	1.5	
64	65	B1-A	B-4194	37	1.5	
65	66	B1-A	B-4194	42	0.2	
66	67	B1-A	B-4194	47	0.3	
67	68	B1-A	B-4194	50.6	0	
68	69	B1-A	B-4194	41		IMPL
69	70	EB1-A	B-4194	2.6	1.5	
70	71	EB1-A	B-4194	7.6	1.5	
71	72	EB1-A	B-4194	12.6	1.5	
72	73	EB1-A	B-4194	17.6	1.5	
73	74	EB1-A	B-4194	22.6	1.5	
74	75	EB1-A	B-4194	27.6	1.5	
75	76	EB1-A	B-4194	32.6	1.5	
76	77	EB1-A	B-4194	37.6	1.5	
77	78	EB1-A	B-4194	42.6	1.5	
78	79	EB1-A	B-4194	47.6	0.1	
79	80	EB1-A	B-4194	33.4		IMPL
80	81	EB1-A	B-4194	42		IMPL
81	82	EB1-A	B-4194	45.7		IMPL
82	83	B2-B	B-4194	45.4	2.8	

Reference Values NCDOT Import for EQUiS EQUiS\july\_test\_facility

C:\Documents and Settings\ghbox\Desktop\Formats\NCDOT\NCDOT.xse EDD: P:\TIPProjec...\b4194\_borelogs.gpj

**Figure 23: Sample Tab of Erroneous Easting Cascading into other Tables**

Error reflects in error report (Figure 24).

EDP Error Log - Windows Internet Explorer provided by NC Dept. of Transportation

C:\Documents and Settings\ghbox\Desktop\b4194\_borelogs\_201011021246\_Log.htm

File » Convert Select

EDP Format f... ABC Medical ... Gmail - well I ... Excite Mail EDP Error... X

## EDP Error Log

User Name:ghbox

Format Name:PROJECT, POINT, LITHOLOGY, SAMPLE, CORE

Format Version:1.03.046

EDD File(s):  
P:\TIPProjects-B\B4194\Geotech\InvestigationDesign\B4194\_GEO\_BRDG0103\NON\_CADD\b4194\_borelogs.gpj

Reference Values File:

Run Date: 11/2/2010 12:46:29 PM

31 total errors:

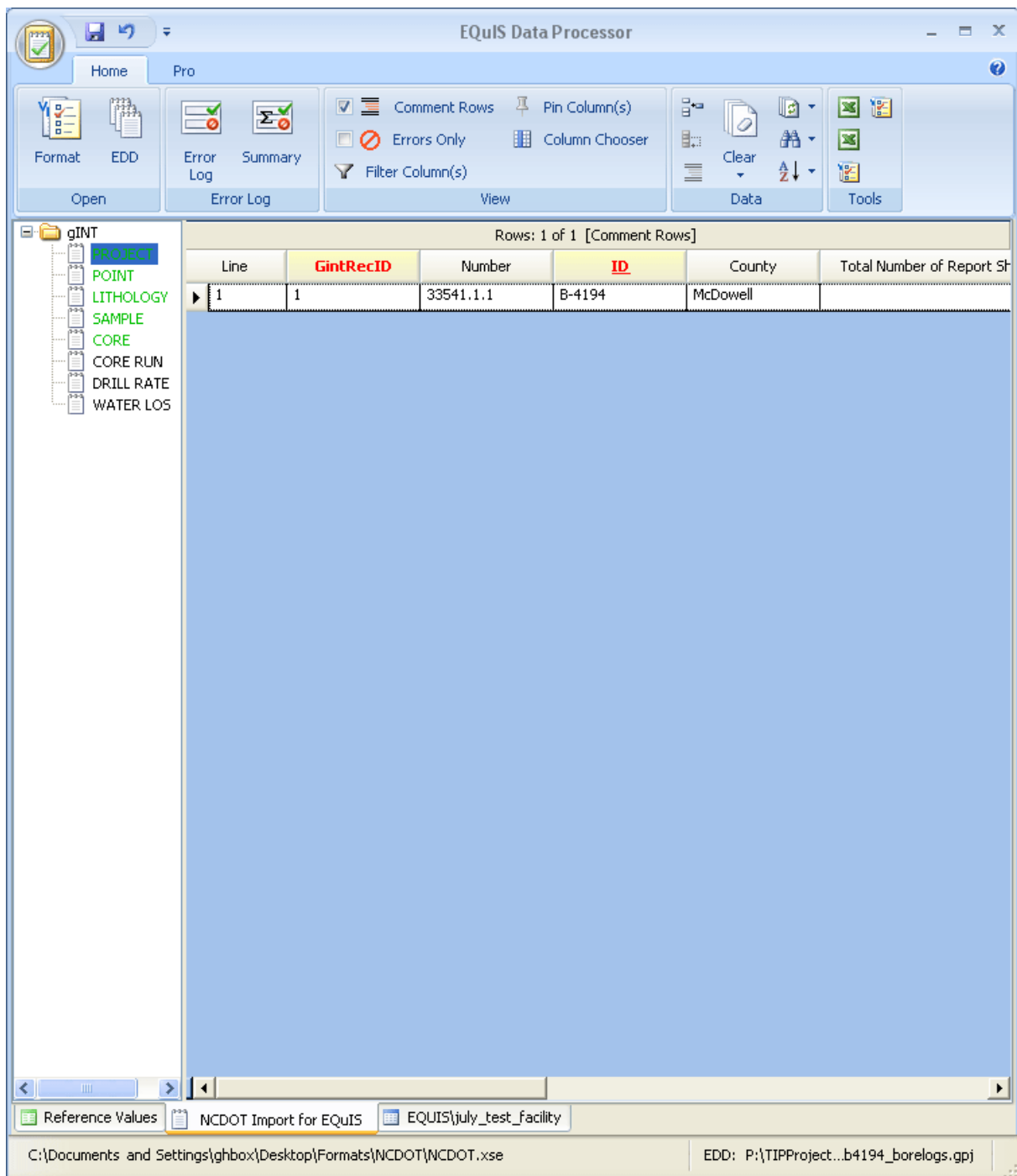
Table	Line	Column	Value	Message	Type
POINT	6	East	0105268	East must be between 400,000 and 3,060,000.	ERROR
LITHOLOGY	19	PointID	B1-A	Parent row in the POINT section has errors.	ERROR
LITHOLOGY	19	ProjectID	B-4194	Parent row in the POINT section has errors.	ERROR
LITHOLOGY	20	PointID	B1-A	Parent row in the POINT section has errors.	ERROR
LITHOLOGY	20	ProjectID	B-4194	Parent row in the POINT section has errors.	ERROR
LITHOLOGY	21	PointID	B1-A	Parent row in the POINT section has errors.	ERROR
LITHOLOGY	21	ProjectID	B-4194	Parent row in the POINT section has errors.	ERROR
SAMPLE	57	PointID	B1-A	Parent row in the POINT section has errors.	ERROR
SAMPLE	57	ProjectID	B-4194	Parent row in the POINT section has errors.	ERROR
SAMPLE	58	PointID	B1-A	Parent row in the POINT section has errors.	ERROR
SAMPLE	58	ProjectID	B-4194	Parent row in the POINT section has errors.	ERROR
SAMPLE	59	PointID	B1-A	Parent row in the POINT section has errors.	ERROR
SAMPLE	59	ProjectID	B-4194	Parent row in the POINT section has errors.	ERROR
SAMPLE	60	PointID	B1-A	Parent row in the POINT section has errors.	ERROR
SAMPLE	60	ProjectID	B-4194	Parent row in the POINT section has errors.	ERROR

My Computer 100%

**Figure 24: Erroneous Easting Error Log**

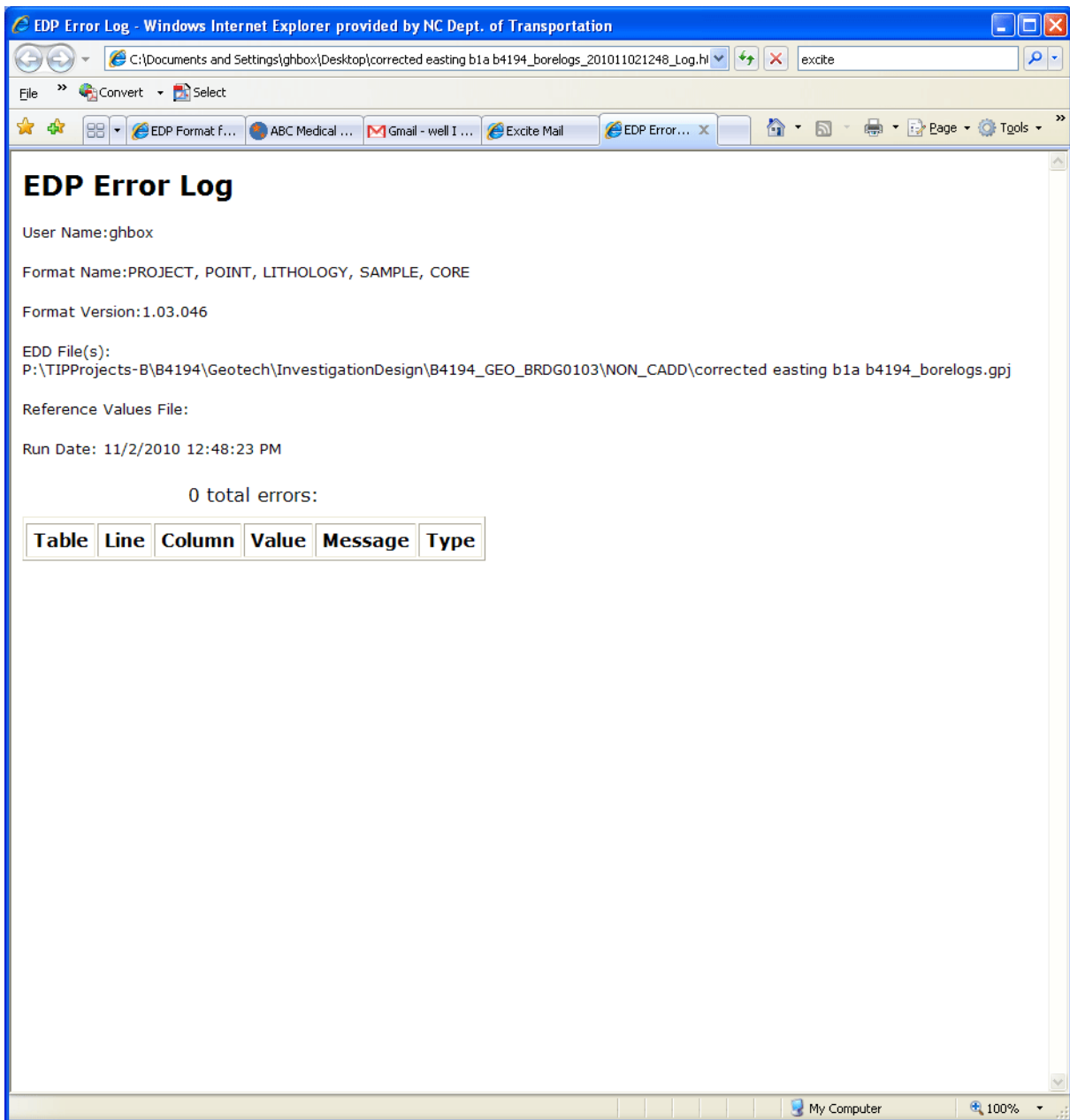
The problem needs to be *fixed in gINT*, to result in clean tables (Figure 25).





**Figure 25: Error Free Data Tables**

Thus, to result in an error-free error report (Figure 26).



**Figure 26: Error-Free Error Log**

- *Alignment must Begin and End with a Hyphen*

"WARNING: Value should begin and end with a hyphen."

EDP Error Log - Windows Internet Explorer provided by NC Dept. of Transportation

User Name: ghbox

Format Name: PROJECT, POINT, LITHOLOGY, SAMPLE, CORE

Format Version: 1.03.046

EDD File(s):  
P:\TIPProjects-B\B4194\Geotech\InvestigationDesign\B4194\_GEO\_BRDG0103\NON\_CADD\corrected easting b1a b4194\_borelogs.gpj

Reference Values File:

Run Date: 11/2/2010 12:51:19 PM

31 total errors:

Table	Line	Column	Value	Message	Type
POINT	1	Alignment	L	WARNING: Value should begin and end with a hyphen.	WARNING
LITHOLOGY	1	PointID	B1-B	Parent row in the POINT section has errors.	ERROR
LITHOLOGY	1	ProjectID	B-4194	Parent row in the POINT section has errors.	ERROR
LITHOLOGY	2	PointID	B1-B	Parent row in the POINT section has errors.	ERROR
LITHOLOGY	2	ProjectID	B-4194	Parent row in the POINT section has errors.	ERROR
LITHOLOGY	3	PointID	B1-B	Parent row in the POINT section has errors.	ERROR
LITHOLOGY	3	ProjectID	B-4194	Parent row in the POINT section has errors.	ERROR
SAMPLE	1	PointID	B1-B	Parent row in the POINT section has errors.	ERROR
SAMPLE	1	ProjectID	B-4194	Parent row in the POINT section has errors.	ERROR
SAMPLE	2	PointID	B1-B	Parent row in the POINT section has errors.	ERROR
SAMPLE	2	ProjectID	B-4194	Parent row in the POINT section has errors.	ERROR
SAMPLE	3	PointID	B1-B	Parent row in the POINT section has errors.	ERROR
SAMPLE	3	ProjectID	B-4194	Parent row in the POINT section has errors.	ERROR
SAMPLE	4	PointID	B1-B	Parent row in the POINT section has errors.	ERROR

**Figure 27: Erroneous Alignment**

- *Parent Row must Exist Error-Free*

A variety of possible causes for this error include:

- Boring Identifier must be Uppercase

"Parent row in the POINT section has errors." 'Parent record must exist in the POINT section and not have errors.'

If the boring identifier was entered in lowercase, then it will be cast in uppercase as a primary-key component in child tables below. The lowercase in gINT will be preserved in DT\_LOCATION table and thus create a mismatch with the uppercase value in the children tables.

According to the NCDOT GEU Guidelines & Procedures Manual for Subsurface Investigations:

#### 100-8 DRAFTING PROCEDURES FOR STRUCTURES

A degree of consistency must be kept on all geotechnical reports. The reason for consistency is that the report will be filed until the project is built. All Units within the NCDOT have been trained using a certain symbology and that symbology should be followed in all reports submitted for letting by the NCDOT. The following procedures have been provided to aid in drafting. The bridge number, or bridge site number from Structure Design Unit, and TIP number must appear on all profiles and cross sections and in the header of all boring logs.

Individual boring logs are required for each hole bored for a bridge foundation investigation.

The following information will be required on boring logs submitted for each project:

Boring identification (EB1-A, B1-B, etc.)

EQUS Data Processor

Home Pro

Format EDD Error Log Summary Open Error Log View

Comment Rows Pin Column(s) Add New Row Refresh Blank EDD Design Format File

Errors Only Column Chooser Copy Row(s) Find EDD Description

Filter Column(s) Set as Comment Row Clear Sort Generate Format File

Rows: 8 of 8 [Comment Rows]

Line	East	Purpose	GintRecID	PointID	ProjectID	Report Sheet Number	Log Print Order	Append Blank Page
1	1059287		1	B1-B	B-4194		0	48
2	1059298		2	B2-A	B-4194		0	40
3	1059299		3	EB1-B	B-4194		0	40
4	1059317		4	B2-B	B-4194		0	62
5	1059288		5	EB2-A	B-4194		0	39
6	1059278		6	B1-a	B-4194		0	50
7	1059269		7	EB1-A	B-4194		0	47
8	1059321		8	EB2-B	B-4194		0	39

Reference Values NCDOT Import for EQUS EQUIS\july\_test\_facility

C:\Documents and Settings\ghbox\Desktop\Formats\NCDOT\WCDOT.xse EDD: P:\TIPProject...\mismatch case borehole name corrected easting b1a b4194\_borelogs.gpj 1.03 Ea rth

**Figure 28: Point Table of Erroneous Lowercase-Uppercase Mismatch**

EQUS Data Processor

Home Pro

Format EDD Error Log Summary Open Error Log View

Comment Rows Pin Column(s) Add New Row Copy Row(s) Set as Comment Row Refresh Find Clear Sort Blank EDD EDD Description Generate Format File Design Format File

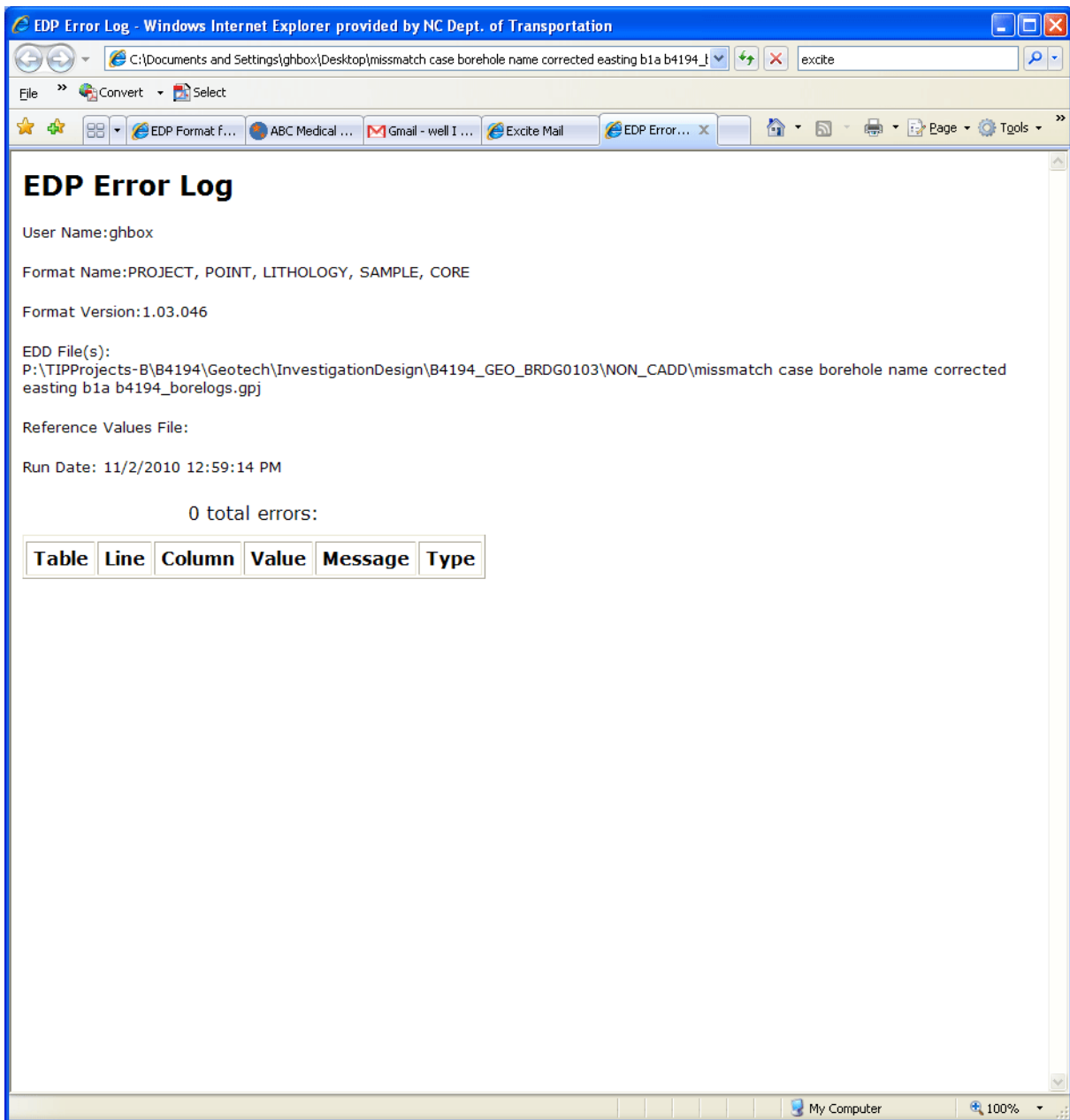
Rows: 37 of 37 [Comment Rows]

Line	GintRecID	PointID	ProjectID	Depth	Bottom	Graphic	Fill	Origin
16	16	EB2-A	B-4194	0	14.7	A2		alluvial
17	17	EB2-A	B-4194	14.7	35.7	A4		saprolite
18	18	EB2-A	B-4194	35.7	39.2	WR		weathered rock
19	19	B1-A	B-4194	0	10.5	A1		alluvial
20	20	B1-A	B-4194	10.5	41	A2		saprolite
21	21	B1-A	B-4194	41	50.6	WR		weathered rock
22	22	EB1-A	B-4194	0	5	A4		alluvial
23	23	EB1-A	B-4194	5	10	A1		alluvial
24	24	EB1-A	B-4194	10	33.9	A4		saprolite
25	25	EB1-A	B-4194	33.9	42.1	WR		weathered rock
26	26	EB1-A	B-4194	42.1	45.7	A2		saprolite
27	27	EB1-A	B-4194	45.7	47.7	CR		crystalline rock
28	29	B2-B	B-4194	48.2	53.2	CR		crystalline rock
29	30	B2-B	B-4194	53.2	57.9	CR		crystalline rock
30	31	B2-B	B-4194	57.9	62.9	CR		crystalline rock
31	32	EB2-B	B-4194	0	4.3	A4		alluvial
32	33	EB2-B	B-4194	4.3	13.9	A2		alluvial
33	34	EB2-B	B-4194	13.9	14.1	A1		alluvial
34	35	EB2-B	B-4194	14.1	26.7	A2		saprolite
35	36	EB2-B	B-4194	26.7	28.9	A2		saprolite
36	37	EB2-B	B-4194	28.9	36.4	WR		weathered rock
37	38	EB2-B	B-4194	36.4	39.8	A2		saprolite

Reference Values NCDOT Import for EQUS EQUIS\july\_test\_facility

C:\Documents and Settings\ghbox\Desktop\Formats\NCDOT\NCDOT.xse EDD: P:\TIPProject...\mismatch case borehole name corrected easting b1a b4194\_borelogs.gpj 1.03 Ea rth

**Figure 29: Lithology Table of Erroneous Lowercase-Uppercase Mismatch**



**Figure 30: Erroneous Lowercase-Uppercase Mismatch EDP Error Log**

An error-free error log will be produced as seen in the figures above; *however*, when NCDOT GEU Production Support creates the EDP package the following error results as in Figure 31.

Please Wait ...

Drag a column header here to group by that column.

Status	Table	Row	Message
INFO	dt_subfacility		1 row(s) processed
INFO	PROJECT		Complete.
INFO	dt_location		8 row(s) processed
INFO	dt_coordinate		8 row(s) processed
INFO	dt_drill_activity		8 row(s) processed
INFO	dt_water_table		6 row(s) processed
INFO	POINT		Complete.
ERROR	dt_lithology	241 111 ...	Column 'SYS_LOC_CODE' does not allow nulls.
ERROR	dt_lithology	241 111 ...	Column 'SYS_LOC_CODE' does not allow nulls.
ERROR	dt_lithology	241 111 ...	Column 'SYS_LOC_CODE' does not allow nulls.
INFO	dt_lithology		34 row(s) processed
INFO	LITHOLOGY		Complete.
ERROR	dt_sample	241 476 ...	Column 'SYS_SAMPLE_CODE' does not allow nulls.
ERROR	dt_sample	241 477 ...	Column 'SYS_SAMPLE_CODE' does not allow nulls.
ERROR	dt_sample	241 478 ...	Column 'SYS_SAMPLE_CODE' does not allow nulls.
ERROR	dt_sample	241 479 ...	Column 'SYS_SAMPLE_CODE' does not allow nulls.
ERROR	dt_sample	241 480 ...	Column 'SYS_SAMPLE_CODE' does not allow nulls.
ERROR	dt_sample	241 481 ...	Column 'SYS_SAMPLE_CODE' does not allow nulls.
ERROR	dt_sample	241 482 ...	Column 'SYS_SAMPLE_CODE' does not allow nulls.
ERROR	dt_sample	241 483 ...	Column 'SYS_SAMPLE_CODE' does not allow nulls.
ERROR	dt_sample	241 484 ...	Column 'SYS_SAMPLE_CODE' does not allow nulls.
ERROR	dt_sample	241 485 ...	Column 'SYS_SAMPLE_CODE' does not allow nulls.
ERROR	dt_sample	241 486 ...	Column 'SYS_SAMPLE_CODE' does not allow nulls.
ERROR	dt_sample	241 487 ...	Column 'SYS_SAMPLE_CODE' does not allow nulls.
INFO	dt_sample		82 row(s) processed
INFO	dt_sample_parameter		340 row(s) processed
INFO	SAMPLE		Complete.
INFO	CORE		Complete.

Done. Click 'Finish' to continue.

Finish Cancel

**Figure 31: Production Support Upload Result of Erroneous Lowercase-Uppercase Mismatch**

Therefore, this needs to be given careful attention to QA/QC by field personnel, because it will cause upload failure when Production Support processes the gINT, despite generating an error-free error log.

- *Metric Projects will not be Loaded to EQUIS*

"Projects using metric coordinates may not be imported."

- *Rounding to 1 foot for Horizontal and 1.0 foot for Vertical Distance*

"Round value to the nearest whole number." "Round decimal values to the nearest tenth."

A common cause for this error is in the application of *Implied Blows* in cases where *N-Step* is appropriate.

*Implied Blows* is designed to display a kink in the line connecting blows on the boring log, not to display a horizontal line at the boundary of a lithology. There, it is appropriate to use *N-Step* only.



➤ Implied Blows

Rows: 1 of 1 [Comment Rows]

Line	GintRecID	Number	ID	County	Total Number of Report Sheets	Input Units	Output Units	Override Reference
1	1	33167.1.1	B-3619	Buncombe		E	E	

Reference Values | NCDOT Import for EQUiS | EQUiS\EQUiS Facility

C:\Documents and Settings\ghbox\Desktop\Formats\NCDOT\WCDOT.xse | EDD: P:\TIPProjects-B\B3619\Geotech\InvestigationDesign\B3619\_GEO\_BRDG0056\_...\gINT.gpj | 1.03 | Earth

**Figure 32: Red Text Indicating Erroneous Rounding due to Implied Blows**

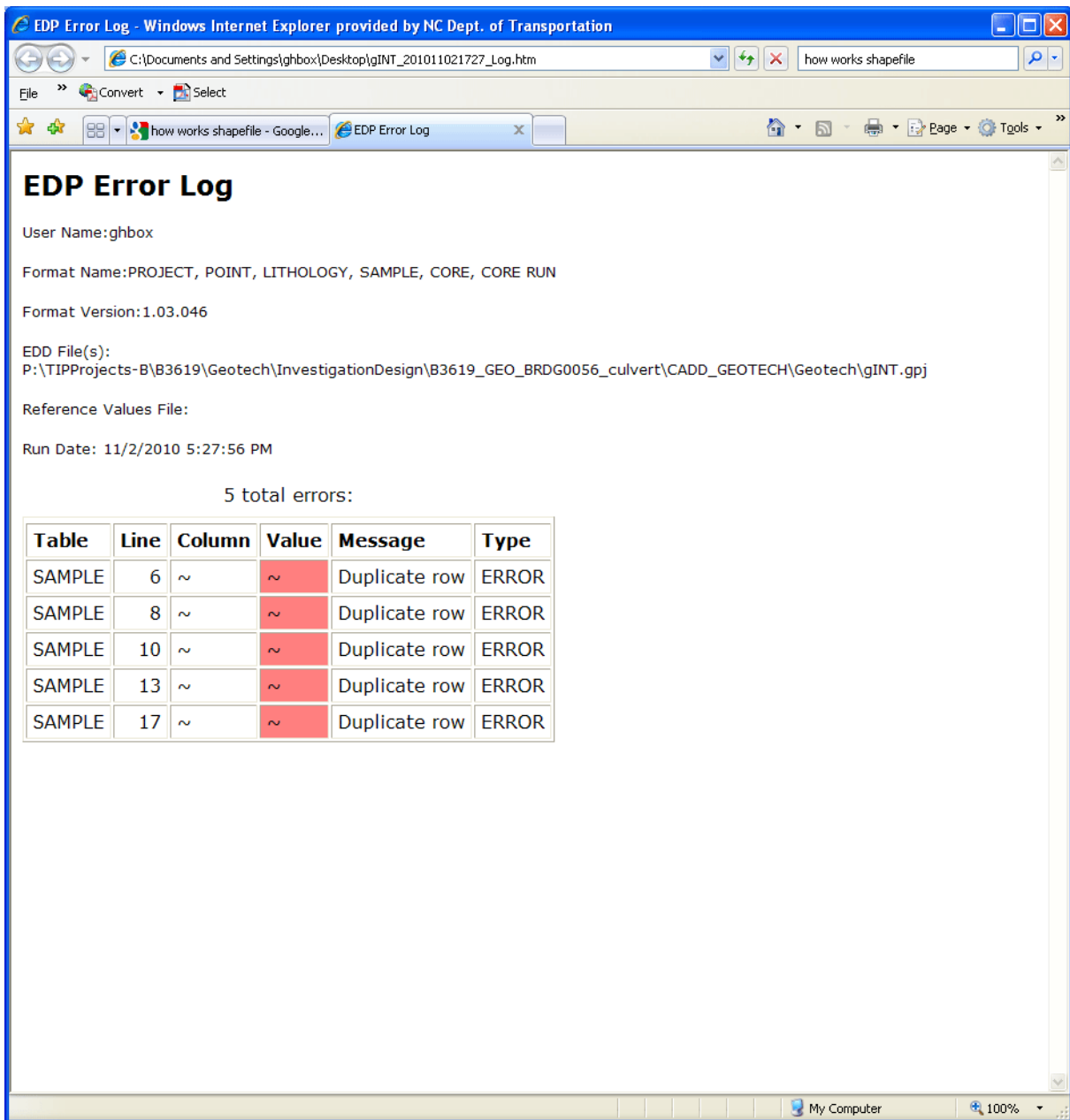
Rows: 19 of 19 [Comment Rows]

Line	GintRecID	PointID	ProjectID	Depth	Length	Type	Number	Blows 1st	Blows
1	1	B-3	B-3619	1.7	1.5			2	2
2	2	B-3	B-3619	3.3	1.5	IMPLIED_BLOWS		0	0
3	3	B-3	B-3619	4.2	1.5	IMPLIED_BLOWS		0	0
4	4	B-2	B-3619	5.1	1.5			4	14
5	5	B-2	B-3619	7.1	1.5	IMPLIED_BLOWS		0	0
6	6	B-2	B-3619	7.1	1.5	IMPLIED_BLOWS		0	0
7	7	B-4	B-3619	2	1.5	IMPLIED_BLOWS		0	0
8	8	B-4	B-3619	2	1.5	IMPLIED_BLOWS		0	0
9	9	B-4	B-3619	3.7	1.5	IMPLIED_BLOWS		0	0
10	10	B-4	B-3619	3.7	1.5	IMPLIED_BLOWS		0	0
11	11	B-4	B-3619	4.4	1.5			8	21
12	12	B-4	B-3619	7.3	1.5	IMPLIED_BLOWS		0	0
13	13	B-4	B-3619	7.3	1.5	IMPLIED_BLOWS		0	0
14	14	B-4	B-3619	9.1	0			60/0.0	
15	15	B-1	B-3619	3.9	1.5			WOH	WOH
16	16	B-1	B-3619	7.2	1.5	IMPLIED_BLOWS		0	0
17	17	B-1	B-3619	7.2	1.5	IMPLIED_BLOWS		0	0
18	18	B-1	B-3619	8.9	0.7			14	86/0.2
19	19	B-1	B-3619	11.3	0			60/0.0	

Reference Values | NCDOT Import for EQUiS | EQUiS/EQUiS Facility

C:\Documents and Settings\ghbox\Desktop\Formats\NCDOT\NCDOT.xse | EDD: P:\TIPProjects-B\B3619\Geotech\InvestigationDesign\B3619\_GEO\_BRDG0056\_...\gINT.gp | 1.03 Ea rth

**Figure 33: Orange Highlight Indicating Erroneous Rounding due to Implied Blows**



**Figure 34: Duplicate-Row EDP Error Log due to Implied Blows Rounding Error**

Depth (ft or m)	Length (ft or m)	Sample Type	Sample Number	Blows 1st	Blows 2nd	Blows 3rd	Blow Count Note	Blow Count Note 2	Moisture (%)	Moisture Desc	Implied Blows
3.9	1.5			WOH	WOH					M	<input type="checkbox"/>
7.19	1.5			1	1						<input checked="" type="checkbox"/>
7.2	1.5					100					<input checked="" type="checkbox"/>
8.9	0.7			14	86/0.2		100/0.7				<input type="checkbox"/>
11.3	0			60/0.0			60/0.0				<input type="checkbox"/>
*											<input type="checkbox"/>

**Figure 35: gINT Input Error using Implied Blows for N-Step**

Depth must be rounded to tenths. Blows 1 and Blows 2 must be null if implied blows is checked.

Refer to Nstep and implied blows at:

S:\Shared\Apps\gINT\Training2006\Class\gINT\_TrainingDoc\_Sept2006.doc

Step N Value 1st and Step N Value 2nd: Leave these fields blank if no Blow Count Graph will be included in the Borelog Report. Also leave the fields blank when the Blow Count curve is to pass through the base of the unit without an inflexion.

Enter a value in either field to force an inflexion in the curve at the base of the unit.

To force a "step" in the graph at the base of the unit, enter values in these fields. The graph steps to the right if the first value is less than the second value. It steps left for the reverse condition.

The B1 field log shows a step in the graph at the base of the first unit. Enter "3" and "16" respectively in the two fields.

First, note that a vertex for the Blow Count graph is shown on the field log at the ground surface. Enter the following values.

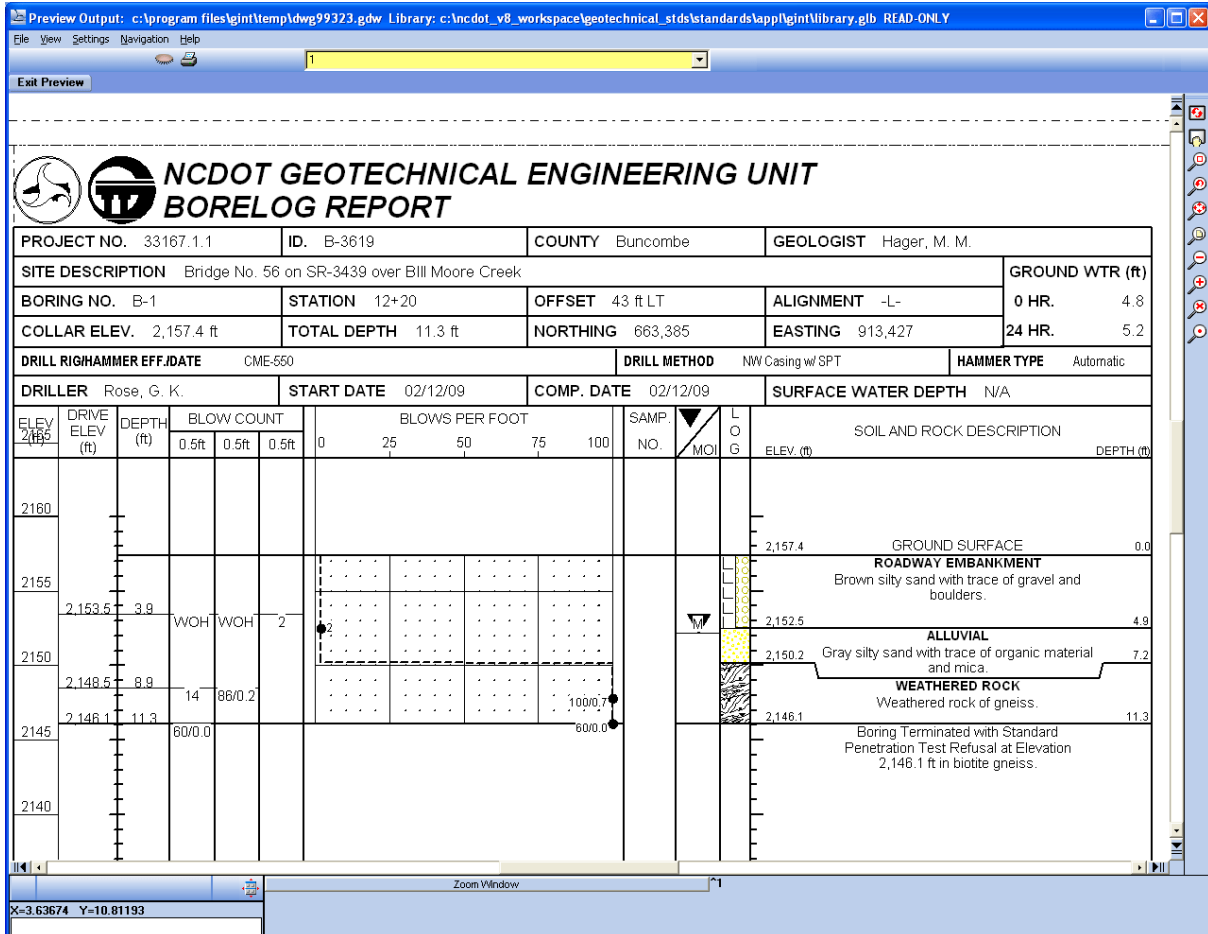
Depth: 0

Length: blank

Blows 1st, 2nd, and 3rd: null, null, 10

Implied Blows: checked

Note that to force a vertex in the blow count graph, the record is entered with a Depth value, but no Length value. Also, the first two Blows fields receive "0", and the third Blows field receives the implied blow count value.



**Figure 36: Display of Boring Log gINT Error using Implied Blows for N-Step**

INPUT - p:\tipprojects-b1b3619\geotech\investigationdesign\b3619\_geo\_brdg0056\_culvert\cadd\_geotech\geotech\gint.gpj LITHOLOGY table Library: c:\ncdot\_v8\_wor

File Additional Modules Edit Format Tools Tables gINT Rules Navigation Help

INPUT OUTPUT DATA DESIGN REPORT DESIGN SYMBOL DESIGN DRAWINGS UTILITIES

Main Group Site Map

Project Borehole Core Lithology Sample Drill Rate Water Loss

Table Help

Depth (ft or m)	Bottom (ft or m)	Pattern	Fill	Origin	Borelog Description	Corelog Description	Line Type	Step N Value 1st	Step N Value 2nd	Recovery Length (ft or m)	RQD Length (ft or m)	RQD Note	Override Layer Thicknes s
0	4.9	A1	RE	roadway embankment	Brown silty sand with trace of gravel and boulders.								
4.9	7.2	A2		alluvial	Gray silty sand with trace of organic material and mica.								
7.2	11.3	WR		weathered rock	Weathered rock of gneiss.								
*													

Row 1 of 3

**Figure 37: Null N-Step Input on gINT Lithology Tab using Implied Blows for N-Step**

INPUT - p:\tipp\projects-bib3619\geotech\investigationdesign\b3619\_geo\_brdg0056\_culvert\cadd\_geotech\geotech\instep for b1 gint.gpj SAMPLE table Library: c:\inc

File Additional Modules Edit Format Tools Tables gINT Rules Navigation Help

INPUT OUTPUT DATA DESIGN REPORT DESIGN SYMBOL DESIGN DRAWINGS UTILITIES

Main Group Site Map

Project Borehole Core Lithology Sample Drill Rate Water Loss

Depth (ft or m)	Length (ft or m)	Sample Type	Sample Number	Blows 1st	Blows 2nd	Blows 3rd	Blow Count Note	Blow Count Note 2	Moisture (%)	Moisture Desc	Implied Blows
3.9	0.5			WOH	WOH	2				M	<input type="checkbox"/>
8.9	0.7			14	86/0.2		100/0.7				<input type="checkbox"/>
11.3	0			60/0.0			60/0.0				<input type="checkbox"/>

Table Help

Row 2 of 3

**Figure 38: Corrected Sample Tab N-Step instead of Implied Blows**

INPUT - p:\tip\projects-bib3619\geotech\investigationdesign\b3619\_geo\_brdg0056\_culvert\cadd\_geotech\geotech\instep for b1 gint.gpj LITHOLOGY table Library: c:

File Additional Modules Edit Format Tools Tables gINT Rules Navigation Help

INPUT OUTPUT DATA DESIGN REPORT DESIGN SYMBOL DESIGN DRAWINGS UTILITIES

Main Group Site Map

Project Borehole Core Lithology Sample Drill Rate Water Loss

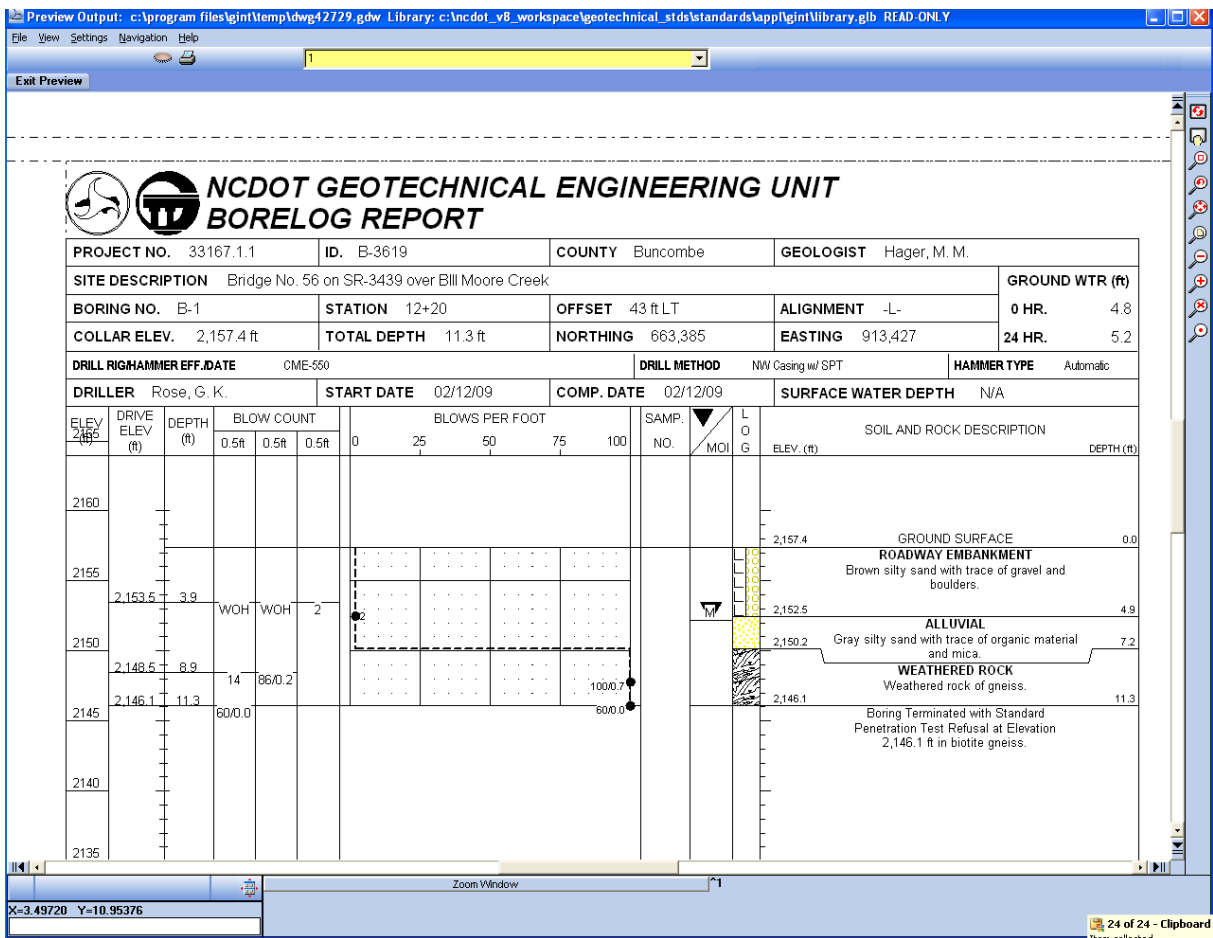
Table Help

Depth (ft or m)	Bottom (ft or m)	Pattern	Fill	Origin	Borelog Description	Corelog Description	Line Type	Step N Value 1st	Step N Value 2nd	Recovery Length (ft or m)	RQD Length (ft or m)	RQD Note	Override Layer Thicknes s
0	4.9	A1	RE	roadway embankment	Brown silty sand with trace of gravel and boulders.								
4.9	7.2	A2		alluvial	Gray silty sand with trace of organic material and mica.			2	100				
7.2	11.3	WB		weathered rock	Weathered rock of gneiss.								
*													

Row 3  
of 3

**Figure 39: Corrected gINT Lithology Tab using N-Step rather than Implied Blows**





**Figure 40: Corrected gINT Boring Log using N-Step rather than Implied Blows**

- Sample Type must be Null for Implied Blows to be Correct

Erroneous entry of a sample type for implied blow may create a duplicate value if the depth is the same for an identical sample type (i.e., depth and sample type are components of primary key).

	Depth (ft or m)	Length (ft or m)	Sample Type	Sample Number	Blows 1st	Blows 2nd	Blows 3rd	Blow Count Note	Moisture (%)	Moisture Desc	Implied Blows
	0						10				<input checked="" type="checkbox"/>
	2.5	1.5	SS	7	WOH	WOH	3			M	<input type="checkbox"/>
	7.5	1.5			8	13	6			D	<input type="checkbox"/>
	12.5	1.5			12	8	9			D	<input type="checkbox"/>
	17.5	0.1			60/0.1			60/0.1			<input type="checkbox"/>
	17.6						100				<input checked="" type="checkbox"/>

**Figure 41: gINT Proper Sample Type with Implied Blows**

Refer to: S:\Shared\Apps\gINT\Training2006\Class\gINT\_TrainingDoc\_Sept2006.doc

NOTE: Blows 1<sup>st</sup> and Blows 2<sup>nd</sup> should be null when Implied blows is checked.

First, note that a vertex for the Blow Count graph is shown on the field log at the ground surface. Enter the following values.

Depth: 0

Length: blank

Blows 1st, 2nd, and 3rd: null, null, 10

Implied Blows: checked

Note that to force a vertex in the blow count graph, the record is entered with a Depth value, but no Length value. Also, the first two Blows fields receive null, and the third Blows field receives the implied blow count value.

○ *Drop-Down Lists in gINT*

gINT's drop-down lists must be used properly especially for those stored in EQuIS as *reference values*.

## **Appendix: Download and Install EDP Standalone**

EDP standalone can be downloaded from <http://www.earthsoft.com/?s=ncdot> as shown in Figure 1. EDP standalone can be installed by anyone with administrative privileges, otherwise the installer will get an error message such as Figure 2.

Before installing, review the minimum system requirements:

<http://help.earthsoft.com/display/EQulSProfessional/2.+EQulS+5+System+Requirements#2.EQulS5SystemRequirements-eq5proreq> , summarized as: Microsoft Windows 32-bit (x86) or 64-bit (x64) operating system with latest applicable service pack: Windows XP, Windows Vista, or Windows 7; Microsoft .NET Framework v3.5 (32-bit 1). If users have permission to write to C:\Program Files\EarthSoft, they will be able to register.

EarthSoft

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EDP Format for North Carolina Department of Transportation

June 25, 2010



Name	Size	Type	Modified
<a href="#">EQulS Data Processor (EDP) version 5.4.3</a>	17 MB	.exe	2010.01.22
<a href="#">NCDOT Format (EXE)</a>	248 KB	.exe	2010.09.21
<a href="#">NCDOT Reference Values (EXE)</a>	140 KB	.exe	2010.09.21

.NET Framework 3.5 Required

EDP Download Instructions (Using Internet Explorer):

- Click the "EQulS Data Processor" link above to start the download.
- Select **Save** if asked if you want to run or save the file. *(Be sure to note where you save the file.)*
- Select **Run** again when asked if you want to run the software.
- The installation wizard will launch. Follow the wizard instructions to complete installation.

EDD Format Download Instructions:

- Click the "NCDOT Format (EXE)" link above to start the download.
- Select **Run** when asked if you want to run or save the file.
- Select **Run** again when asked if you want to run the software.
- A window will appear indicating where the format will be installed. Verify the format will be installed to C:\Program Files\EarthSoft\EQulS\Formats\NCDOT .
- Select **Install**.


EDD Reference Value Download Instructions (Using Internet Explorer):

- Click the "NCDOT Reference Values" link above to start the download.
- Select **Save** if asked if you want to run or save the file. *(Be sure to note where you save the file.)*
- Select **Run** again when asked if you want to run the software.
- The reference values will be extracted to \Program Files\EarthSoft\EQulS\Formats\NCDOT\

How to determine if you already have the .NET Framework version 3.5




You can check to see if you already have the .NET Framework 3.5 installed by clicking **Start** on your Windows desktop, selecting **Control Panel**, and then double-clicking **Add or Remove Programs**. When that window appears, scroll through the list of applications. If you see Microsoft .NET Framework 3.5 listed, the latest version is already installed and you do not need to install it again.



Name	Size	Type	Modified
<a href="#">Microsoft Downloads</a>	N/A	External Site	2007.11.20

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2006 (2)

2005 (3)

2004 (4)

2003 (2)

2002 (4)

2001 (1)

2000 (5)

1999 (4)

1998 (1)

Tags

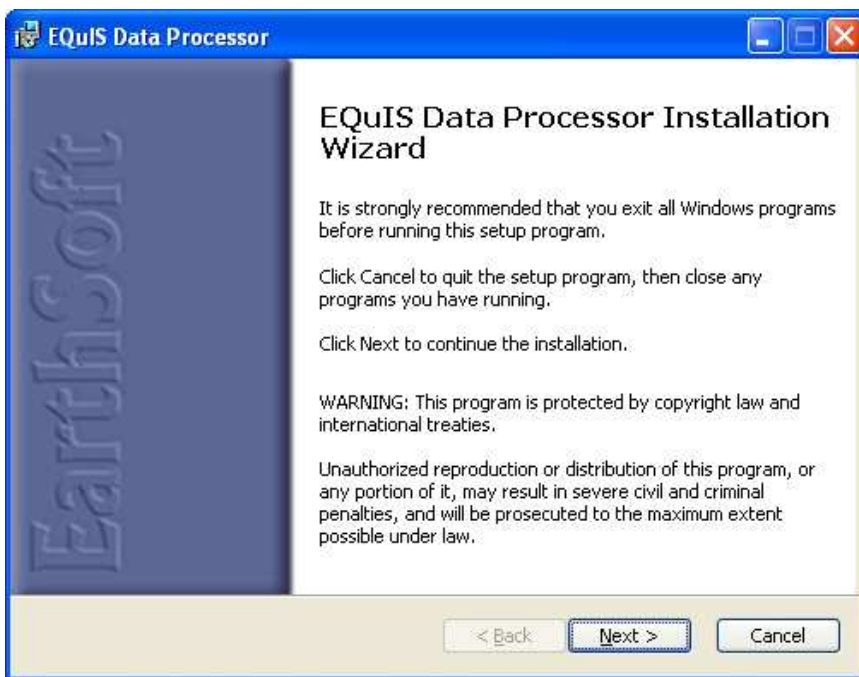
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[temperature turbidity user](#)
[conference wells wireless](#)
[workflow](#)

**Figure 1: EDP Format for NCDOT webpage**



**Figure 2: Error Message Received due to Installation Attempt by Non-Administrator**

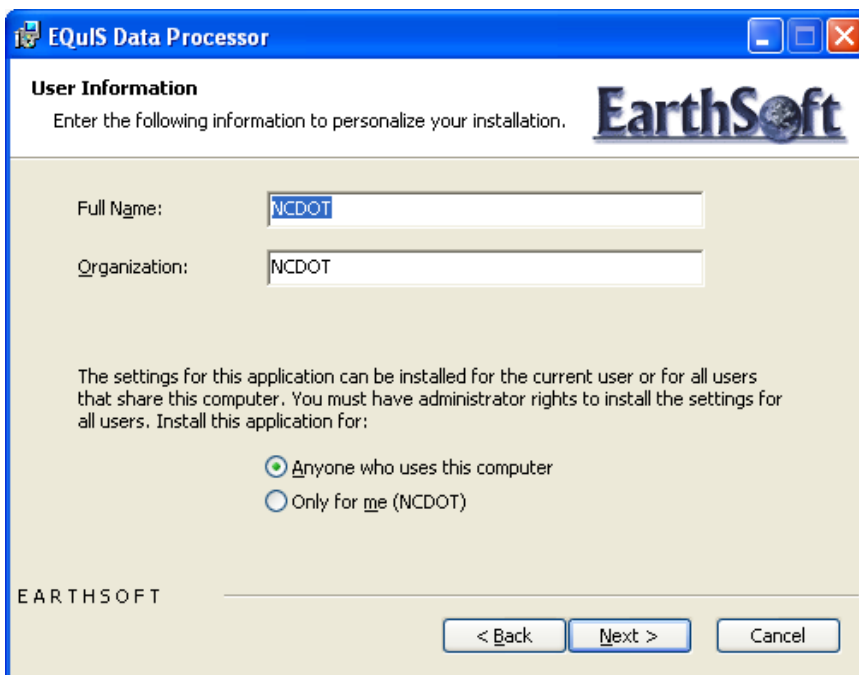
Download three files: EQUIS Data Processor, NCDOT Format, and NCDOT Reference Values. Run the executable files. Follow install wizard steps.



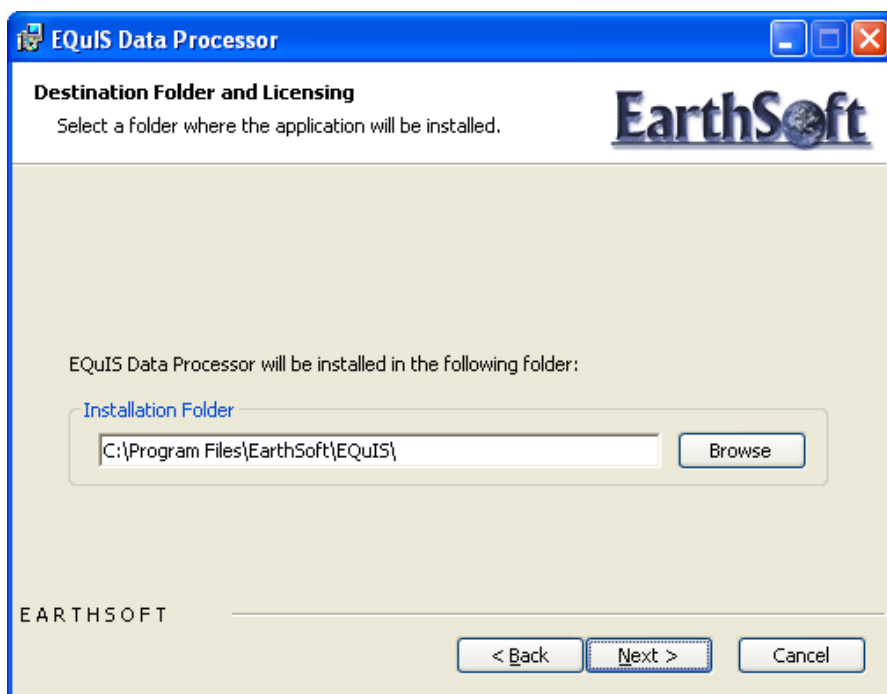
**Figure 3: EQUIS Data Processor Installation Wizard**



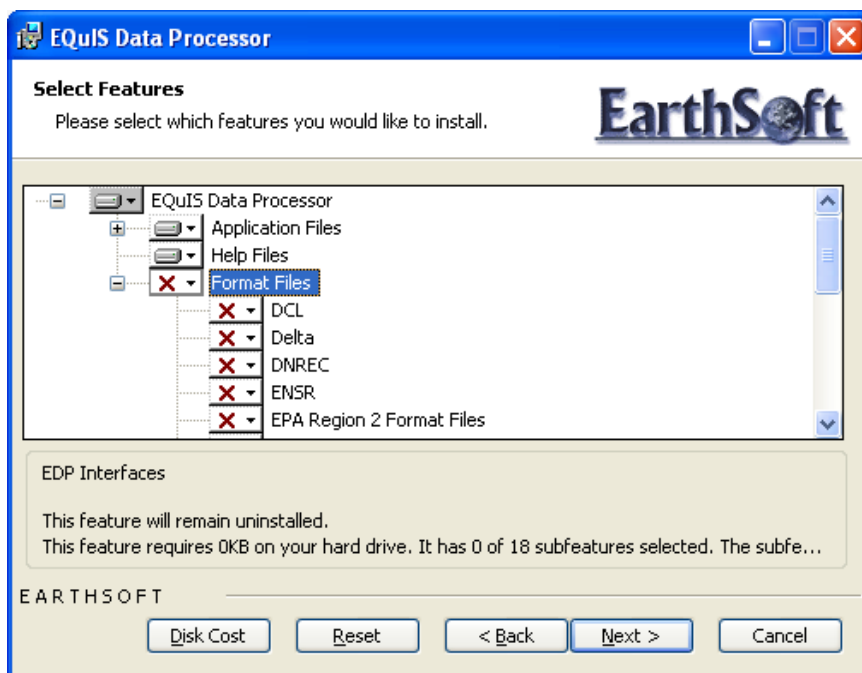
**Figure 4: EQuIS Data Processor License Agreement**



**Figure 5: EQuIS Data Processor User Information**

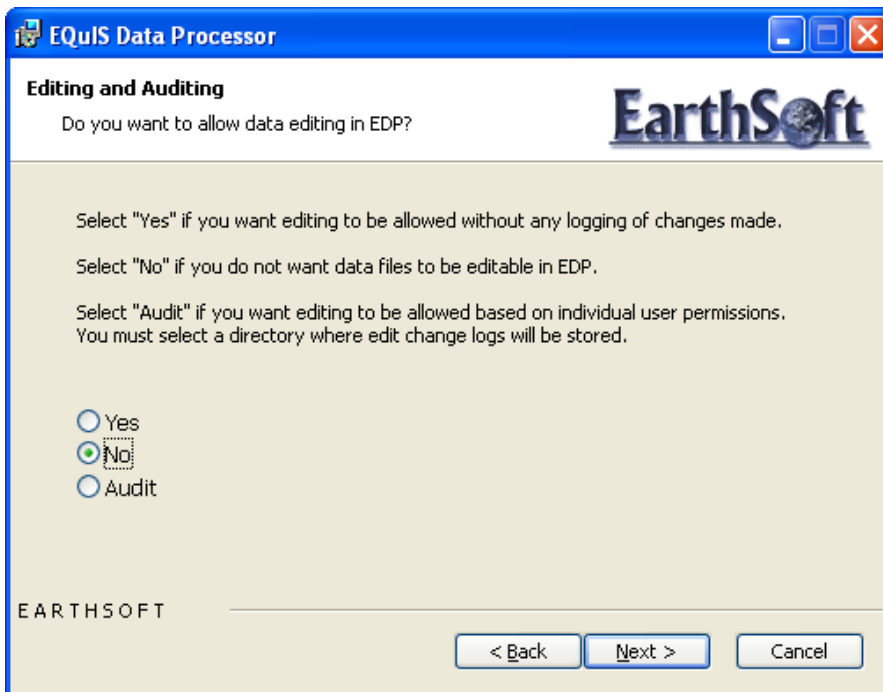


**Figure 6: EQulS Data Processor Destination Folder and Licensing**



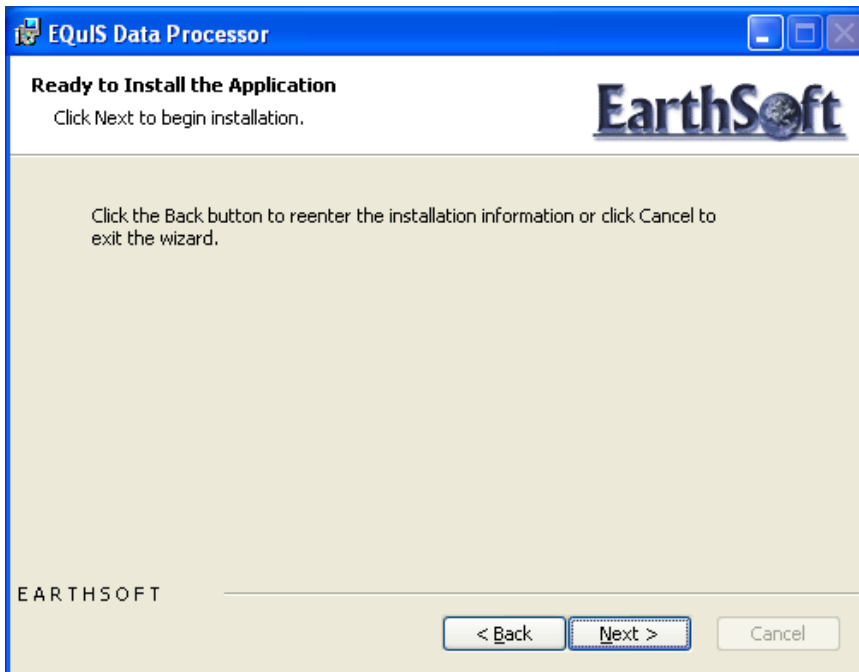
**Figure 7: EQulS Data Processor Select Features**

It is adequate to chose: “This feature will remain uninstalled” for items above with a red “X”. It is not required, because the next steps bring in the required format files.



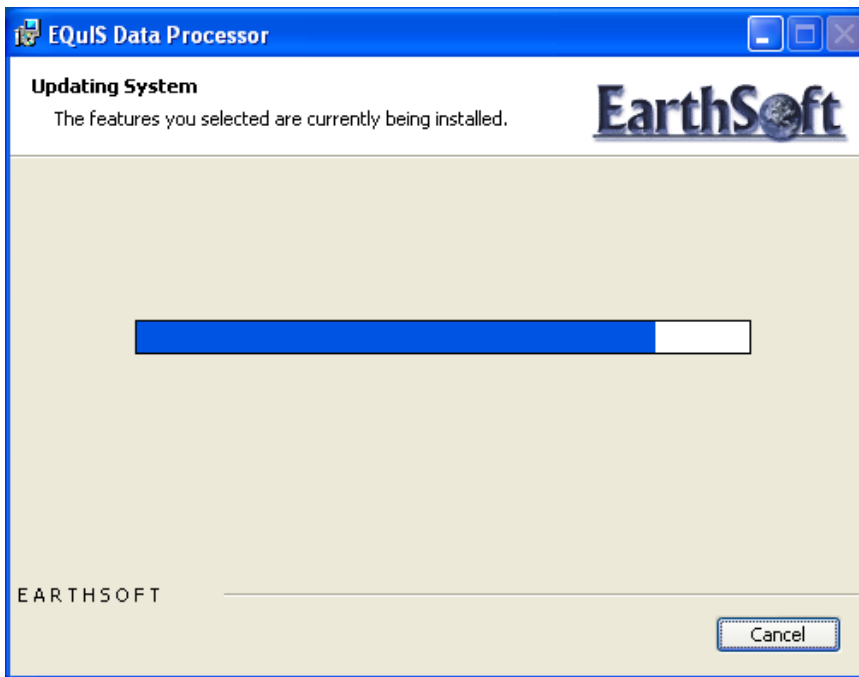
**Figure 8: EQulS Data Processor Editing and Auditing**

It is recommended to select “No” in Figure G----above....Particularly at NCDOT the admin should select “no”.

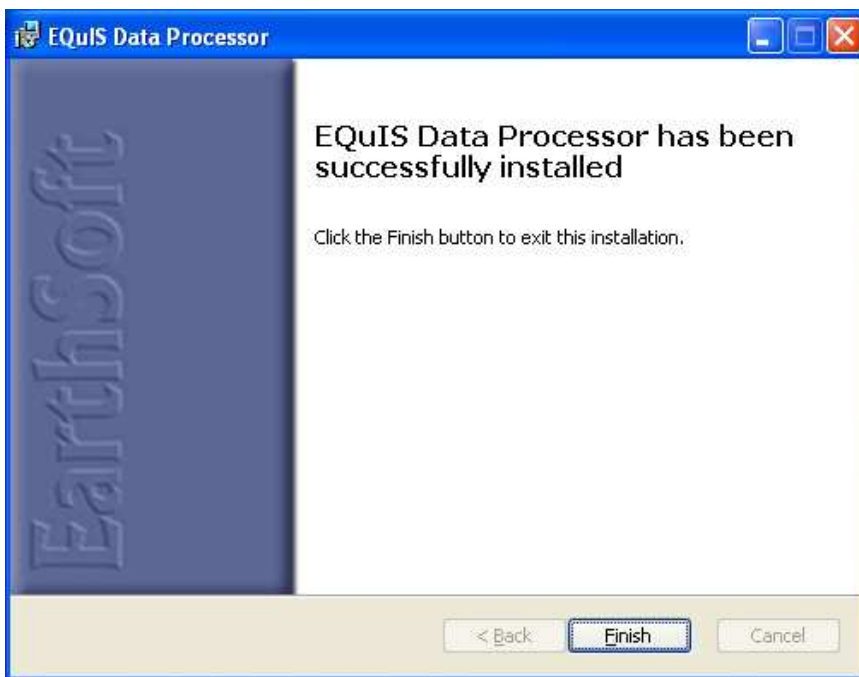


**Figure 9: EQulS Data Processor Ready to Install the Application**





**Figure 10: EQulS Data Processor Updating System**

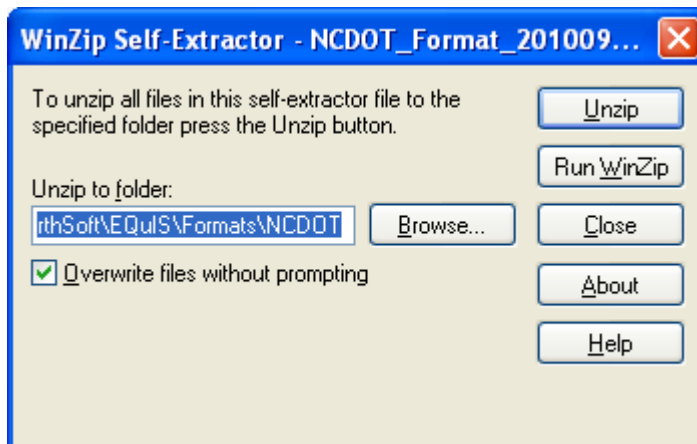


**Figure 11: EQulS Data Processor - Successfully Installed**

Then, run the other two executable files (.exe) downloaded in order to install 1) format files and 2) reference value files. This step is not required by the NCDOT GEU field office personnel because it is adequate to use the files in workspace to access the format files.



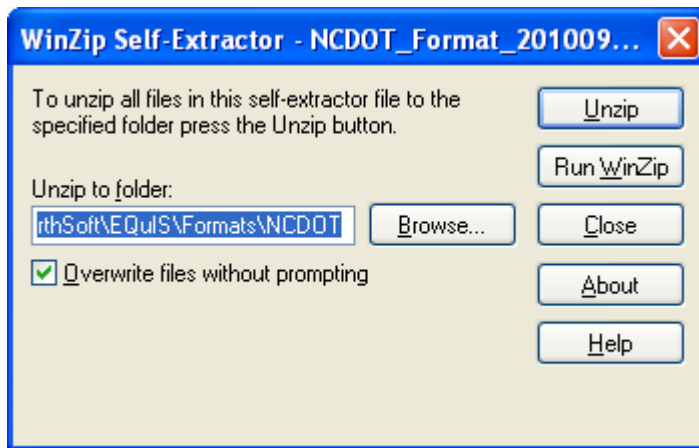
**Figure 12: Open File - Security Warning**



**Figure 13: WinZip Self-Extractor NCDOT\_Form - Click Unzip**

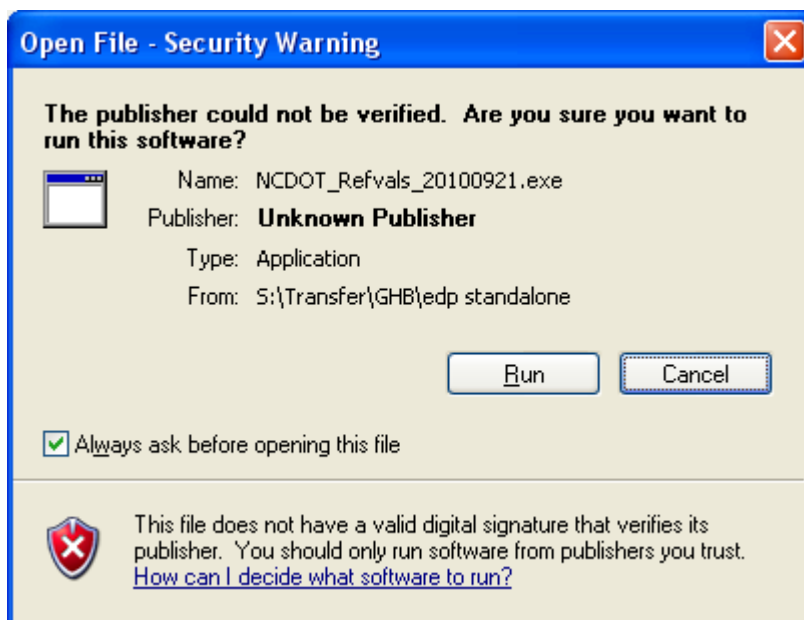


**Figure 14: WinZip Self-Extractor - Success**

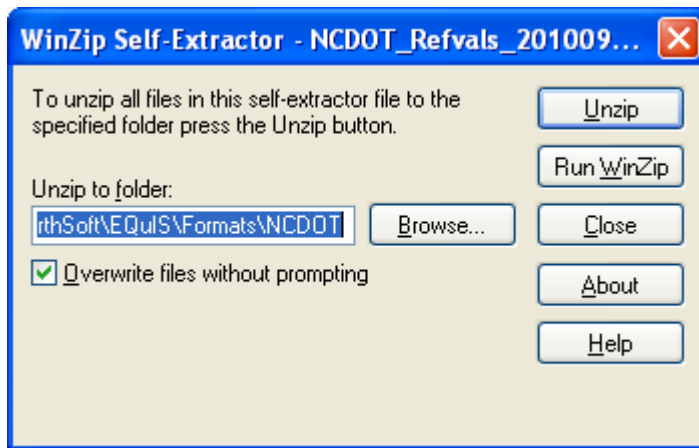


**Figure 15: WinZip Self-Extractor NCDOT\_Form - Click Close**

Next, install reference value file.



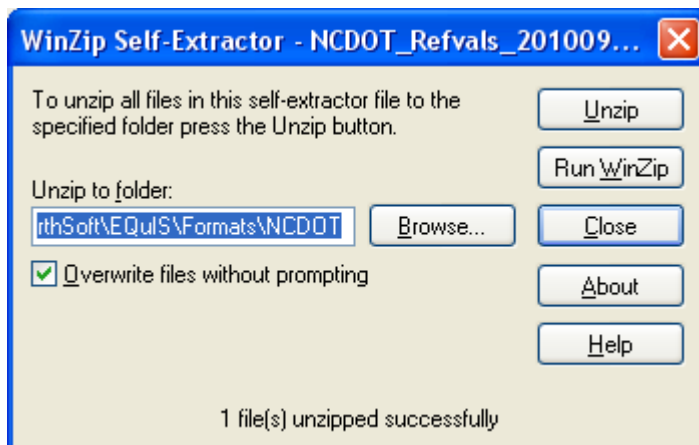
**Figure 16: Open File - Security Warning**



**Figure 17: WinZip Self-Extractor NCDOT\_Refvals – Click Unzip**



**Figure 18: WinZip Self-Extractor - Success**



**Figure 19: WinZip Self-Extractor NCDOT\_Form - Click Close**